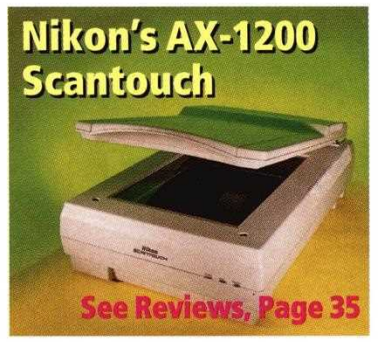
# MacWEEK

08.14.95 | *The Newsweekly for Macintosh Managers* | VOLUME 9 NUMBER 32


BUYER REACTION

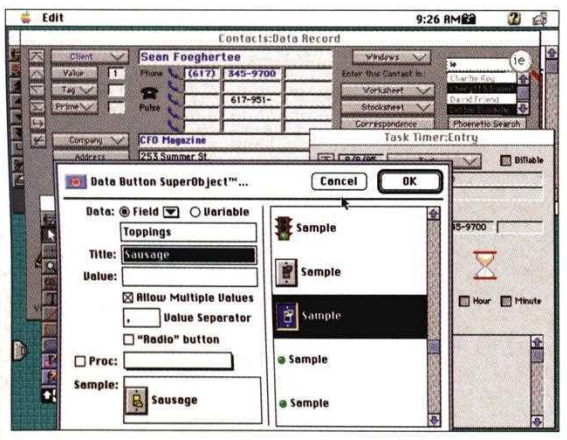
## Expo tire kickers take to new Macs' speed, price

**By Clifford Colby**

Apple's new PCI Power Macs made a big splash at last week's Macworld Expo in Boston. The new Power Mac 7200s, 7500s and 8500s running in Apple's pavilion were drawing crowds of attendees, lured by the new machines' performance and price. Several attendees, however, said the new Macs won't distract them from clones.

Dennis W. Nosal said he found the new Macs, which range from $1,699 to $4,999, compelling. Nosal, director of production systems for K-III Magazines Corp. in New York, said he plans to buy 200 to 300 machines over the next two years for K-III's artists and editors. "The pricing is a good move by Apple," Nosal said. "It is right in line."

*See Buyer, Page 84*




**Panorama 3's interface enhancements include a new SuperObject data type that can incorporate buttons, pop-up menus and arrays into database forms.**

## ProVUE eyes client-server with relational Panorama

**By Rick LePage**

ProVUE Development Corp. last week widened its horizons into the land of relational databases, demonstrating at Macworld Expo the first major revision to Panorama in more than two years.

The update, Panorama 3, is scheduled to ship by November with Apple-events scripting, new interface tools, synchronization and improved security, among other enhancements.

In a major break from Panorama's past, the new version will build SQL-based client-server applications, using Data Access Language and a licensed version of Butler from EveryWare Development Corp. of Mississauga, Ontario. ProVUE said it expects compatibility with databases from Oracle Corp., Sybase Inc. and others at a later date; Open Database Connectiv-

*See Panorama, Page 82*

NEWSPAPER SECOND CLASS

# PPC partners planning follow-ons to 603, 604

### 615 will boot as PPC, x86 or both

**By Robert Hess**

Over the course of the next year, IBM Corp. and Motorola Inc. plan to significantly push forward the PowerPC chip line with three new processors, including one designed to be compatible with the Intel x86 standard.

Sources said Motorola plans to start sampling a PowerPC 604e, or "extended," processor in the fourth quarter of this year. Starting at 150 MHz, the new chip will be smaller, cooler and less expensive than the standard 604, thanks to fewer transistors and a smaller die size than its predecessor.

It will also offer a unified cache that is slightly larger than today's 604. This will be good news for Mac owners, since such a cache will help boost performance of Apple's dynamic recompiling 680x0 emulator.

The 604e will be built at Motorola's Austin, Texas, plant, using a 0.35-micron process, sources said.

Motorola will reportedly have chips ready next summer for companies to use in their computers. Sources said that while Apple might be the obvious candidate to deliver the first 604e-based Macs, it

*See PowerPC, Page 84*

**The next PowerPCs**

| VENDOR/ PROCESSOR | FEATURES |
|---|---|
| **Motorola 604e** | Smaller, cooler, cheaper, improved emulator performance |
| **Motorola Valiant** | Cheaper, improved emulator performance |
| **IBM 615** | Combination of Pentium and PowerPC |

## 'I like 'em, I like 'em a lot'

Reporter's Notebook

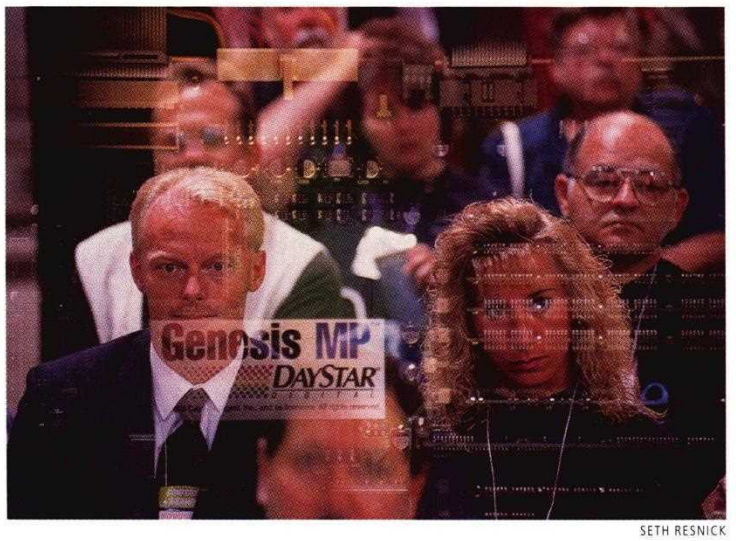
**By MacWEEK staff**

Boston — A record throng of 60,000 flocked to Macworld Expo last week to bask in the glow of Apple and all things Mac. After several days of self-aggrandizement, maybe the show should have been called MacLovefest.

Users snaked around the company's new Power Macs — the 7200, 7500 and 8500 — to get a peek at the Apple booth in a bustling Bayside Exposition Center. "I like 'em. I like 'em a lot," gushed Scott Petersen, president of Ackerman Lightning Protection Co. of Watertown, Conn.

The mood was downright sunny. Except for the dark rumblings that keep echoing around

*See Notebook, Page 82*




SETH RESNICK

**The record-breaking crowd at this year's Macworld Expo came for the clones but stayed for the biggest Boston Mac product bash in years.**

FIRST LOOK

## Windows 95 networking is nothing new

*In Part 2 of a three-part series, MacWEEK compares the networking and communications features in Windows 95 to those in System 7.5.*

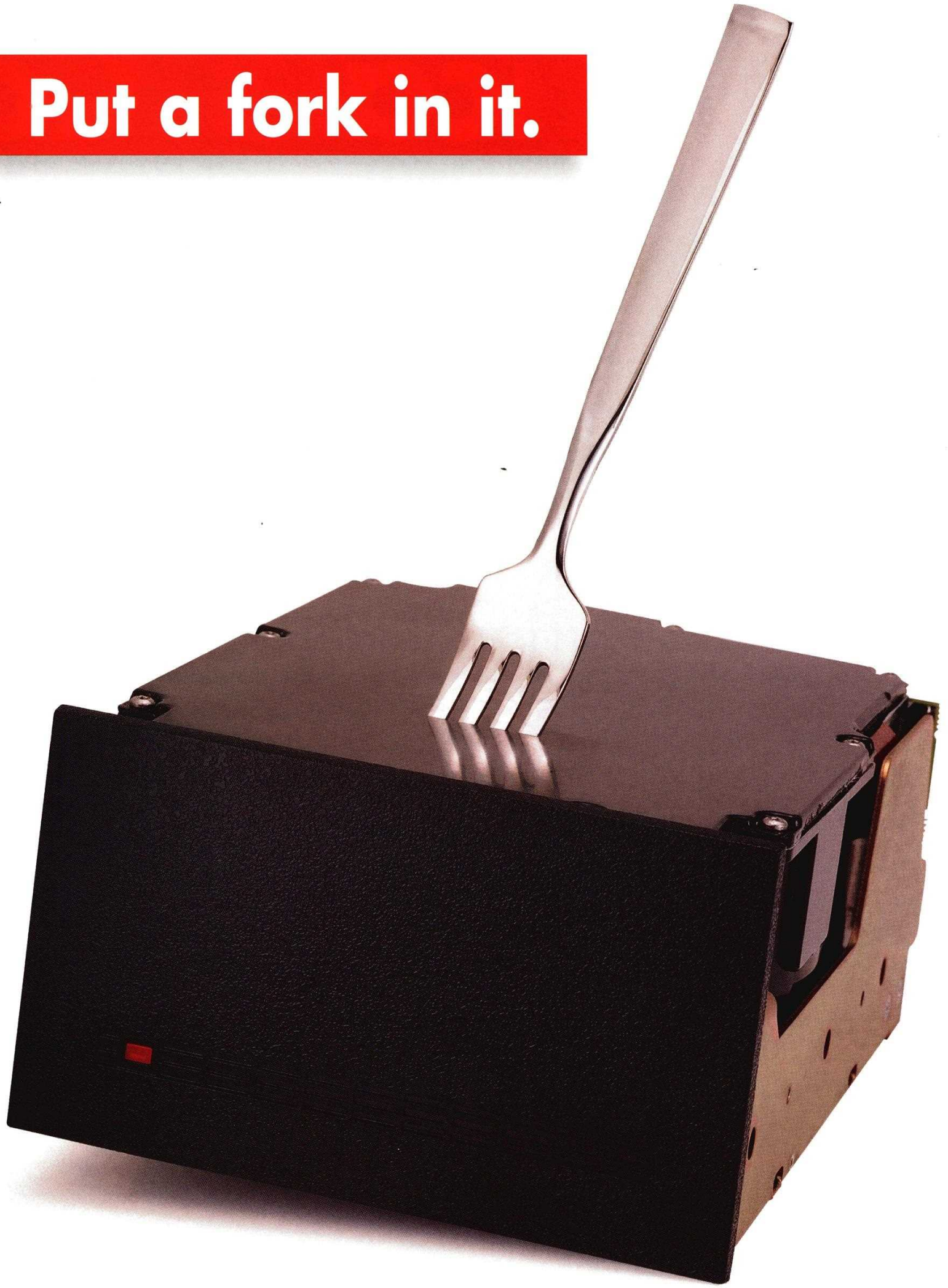
**By Stephen Howard**

Computer communications is beastly and one of the top challenges of today's operating systems. Windows 95 strives mightily in this arena, copping Macintosh moves at every turn.

The most important communications advance in Windows 95 is its Inbox, a supposedly universal repository for e-mail, faxes,

*See Windows 95, Page 82*

# Put a fork in it.



# The hard drive is done.

# Optical's Coo

## INTRODUCING THE PINNACLE APEX 4.6 GB C

### The Biggest Breakthrough in Storage

The only two advantages magnetic hard drives held over optical drives have now been eliminated. In both price and performance, the new Pinnacle Apex 4.6 GB is the first optical drive to totally cook magnetic hard drives.

### Features:

- **Faster than the average hard drive (data throughput 6 MB/sec max)**
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- **Enormous 4.6 Gigabyte capacity per disk**
- **Unlimited capacity - just add another disk**
- **Direct Overwrite media (one-pass write)**
- **Greater reliability and durability than hard drives**
- **Removable disks allow easy portability and security**

| OPTICAL DRIVE | | |
|---|---|---|
| **Capacity** | **List Price** | **Cost/MB** |
| 4.6 GB | $1,695 | $ 0.37 |
| **MAGNETIC HARD DRIVE** | | |
| **Capacity** | **List Price** | **Cost/MB** |
| 4.3 GB | $2,161* | $ 0.50 |

*Based on average of MSRP of APS ST 4.0 SR2000 4.3 GB external drive ($1,599.95), Micronet Barracuda 4.3 GB external drive ($2,425), and FWB Pocket Hammer 4100 4.1 GB external drive ($2459). Telephone price quotes obtained from manufacturers 7-6-95 and 7-7-95.

### The Crossover in Storage Technology

We've always known that some day optical drives would replace magnetic hard drive technology in the computer industry. Simply put: optics are superior to magnetics. The numerous limitations of hard drives make this fact obvious. Hard drives crash, they're a pain to move around, they fill up too quickly, and you constantly have to back them up.... So why do we buy these things? Because up until now, we've never had an alternative that offered the speed, price and capacity of the Pinnacle Apex 4.6 GB optical drive. The Apex signals the dawn of a new era in computer storage.

| No. of Cartridges/Capacity | Cost (drive + media) | Cost per Megabyte |
|---|---|---|
| 1 - 4.6GB | $1695 | $0.37 |
| 2 - 9.2 GB | $1894 | $0.20 |
| 3 -13.8 GB | $2093 | $0.15 |
| 4 - 18.4 GB | $2292 | $0.12 |
| 5 - 23.0 GB | $2491 | $0.11 |
| 10 - 46.0 GB | $3486 | $0.08 |
| 15 - 69.0 GB | $4481 | $0.06 |

MSRP of Apex 4.3 GB is $1695, including one 4.6 GB optical cartridge. Additional cartridges are available at MSRP of $199 each.

Today's powerful and advanced computer software applications have created an unprecedented demand for storage capacity. The ideal storage device would offer unlimited expandability, removable media, and exceptional reliability and affordability. Only the new Apex meets these stringent criteria, with innovative technology that will set the standards into the next millennium.

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# kin'

# PTICAL HARD DRIVE

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The Apex can fit into any computer system with its half-height 5.25" design (same size as a CD-ROM drive), or you can go external with the Apex's cool, stylish case.

The Apex's combination of high capacity, impressive speed and removable/portable media make it the ideal storage device for a broad range of applications:

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- **The General Data Storage Drive**
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No matter what your application, the Apex's combination of price/performance, removability, and reliability make it the obvious choice. The last storage system you'll ever need to buy - the revolutionary Pinnacle Apex 4.6 GB optical hard drive.

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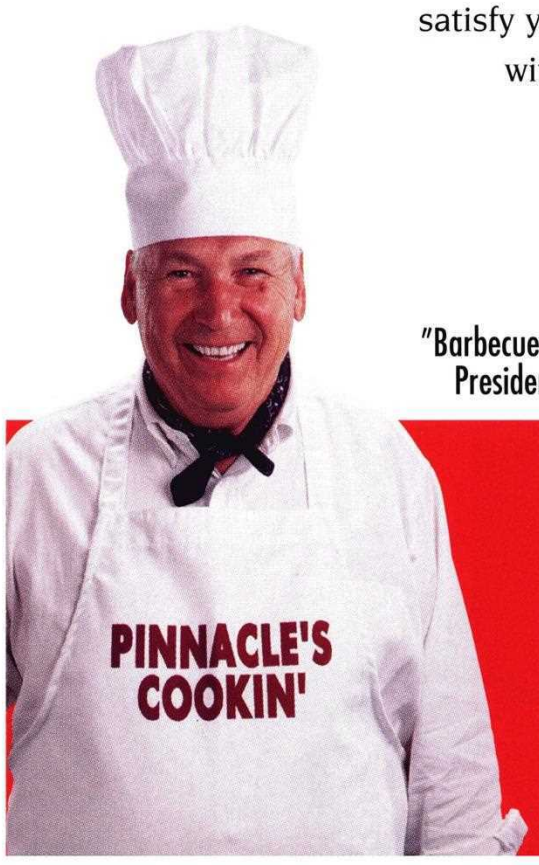


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# THE INSIDE STORY

***Pinnacle R&D Center, Colorado Springs, CO***

**Pinnacle Micro set out to develop an optical drive that pushed the technological limits of mass storage devices. The design team's goals were to develop a drive that features:**

- **Performance and throughput equal to hard drives**
- **Lower cost-per-megabyte than hard drives**
- **Improved reliability featuring laser technology**
- **Unlimited capacity with removable media**
- **Capabilities that address a variety of market needs**

**To meet these goals, Pinnacle formed a drive development team at its state-of-the-art R&D facility in Colorado. Each of the team's members was hand-picked on the basis of leadership in his or her particular area of expertise. The assembled team boasted experience in media, optics, lasers, servos, power drivers, analog ASIC design, digital, PCBs, DSP firmware, controller firmware, testing, and systems integration. This elite team worked together to develop a product that incorporates the best combination of design elements between DSP and controller hardware, and between firmware and hardware.**

## SPECIFICATIONS

| | |
|---|---|
| **Type** | **Magneto-Optical/Rewritable** |
| **Form Factor** | **5.25" half-height internal/external** |
| **Capacity** | **4.6 GB 1024 sector** |
| | **4.2 GB 512 sector** |
| **Data Rate** | **6 MB/sec (max)** |
| **Seek Time** | **17 milliseconds** |
| **Rotation Speed** | **5000 RPM (max)** |
| **Media Life** | **30+ years** |

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MacWEEK

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Omnis returns to desktop • PowerMail offers AppleMail alternative • Dayna announces PC card line • New telephony tools available

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Company Report Card: Claris • Copyrights are fair game • Plug-in distribution market

At Siggraph 95 last week, Ray Dream announced Ray Dream Studio, a new cross-platform program that combines 3-D and animation tools. See GA, Page 16.

Making the grade: New monthly feature assesses key Mac developers' performance, starting this week with Claris. See Business, Page 28.



Optima's CD-R Access software makes CD recording on the desktop possible. See Reviews, Page 35.

**No more slide shows: Midrange multimedia animation software makes preparing presentations accessible to the average user. See Solutions, Page 45.**

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Do your business presentations seem too static? Animated multimedia applications could be the answer.

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**MACWEEK INSIDER** CAROLYN SAID

# Sun shines on Mac market

It seems that the reports of Apple's demise have been greatly exaggerated.

Blue skies were the theme, not just the weather, at this year's Macworld Expo in Boston. The gathering clouds of Windows 95 couldn't overshadow the reality that the Mac market is vital and thriving.

Show attendance reached record heights, up at least 10 percent from last year. Real clones were shipping in quantity and at very competitive prices. Apple rolled out PCI machines for as little as $1,700. And myriad new products and technologies were on display. With all these accomplishments, Apple and its third-party vendors showed that the Mac continues to be a formidable force in the world of computing. For that matter, Bill Gates and company carried the same message by toiling to mimic every OS feature and to court every Apple market stronghold.

Several specific bright spots and smart decisions stood out at last week's show.

By placing its booth in the Bayside Expo Center, Apple attracted more show goers to the expo site that, although off the beaten path, usually houses the cutting-edge, quirky and innovative small companies that represent the future of the platform.

Both Apple's booth and Developer Central were conspicuously larger and more chock-full of new products than at last year's show. And the rising number of new products owes plenty to some good strategies on Apple's part.

"All the new companies at the booth represent the dividend being paid by Apple's investment in evangelism," said one Apple product manager.

But it's not just evangelism that attracts developers; it's really cool technology, the kind that you can't build on top of a legacy command-line operating system.

Take for example MicroSpot USA Inc. The company got its start in the Mac market several years ago with a 3-D program for interior design but was later sidetracked into the more lucrative printer- and plotter-driver business. With the advent of QuickDraw 3D, which offers a strong base for creating 3-D applications, MicroSpot was able to whip up a neat little program called 3D World, getting back to its roots with the kind of software it had always wanted to do, according to a company engineer. Now that's enabling technology.

Take a look at Developer Central for more examples of enabling technology. There weren't just development tools for programmers; there were database, multimedia authoring and "solutions" tools aplenty.

**The aura of energy on the show floor should translate into solid numbers.**

Developer Central is the spawning ground for future innovation. You could almost do a rule-of-thumb measure to predict the number of new products at next year's Macworld Expo based on the number of new tools in Developer Central this year.

The outlook also seemed bright on the clone frontier. The pervasiveness of Power Computing Corp.'s machines helped to convey the message that clones have really, truly arrived. The multiprocessing architecture demonstrated by DayStar Digital Inc. showed that there will soon be plenty of horsepower for the high-end publishing and video users who make up the Mac platform's strongest markets.

The aura of energy on the show floor should translate into solid numbers. Attendees weren't just tire-kickers; they were the cash-and-carry crowd. For instance, one vendor, Connectix Corp., said it broke its all-time sales record for a new product last week with SpeedDoubler.

Meanwhile, it sounds like the Mac drought may get some relief. Apple said it expects its Mac manufacturing capacity to rise 25 percent in its fourth fiscal quarter and 50 percent in the Christmas quarter (Apple's first fiscal quarter of next year).

It was great finally to attend a summer Macworld Expo that had fine weather. It was even greater to attend one that also had excellent forecasts. □

*Stephen Howard contributed to this column. Carolyn Said is MacWEEK senior news editor/GA. She welcomes feedback at carolyn_said@macweek.ziff.com.*

**MacWEEK** (ISSN 0892-8118) is published weekly, with the exception of July 3, Nov. 20, and Dec. 18 and 25, by Ziff-Davis Publishing Co., 1 Park Ave., New York, N.Y. 10016. Single-copy price, including postage: $6. One-year subscription rate: U.S., $125; Canada/Mexico, U.S. $225; International, U.S. $350 (airmail). All orders must be prepaid. Direct **subscription inquiries** to Customer Service Department, MacWEEK, c/o JCI, P.O. Box 10634, Riverton, N.J. 08076-0634; (609) 786-8230. **Changes of address** require that a new application be filled out completely and include both new and old addresses. Allow four to six weeks for processing. We periodically make lists of our customers available to carefully screened mailers of quality goods and services. If you do not wish to receive such mailings, please let us know by writing to us at Customer Service Department, MacWEEK, P.O. Box 10634, Riverton, N.J. 08076-0633. **Postmaster:** Send address changes to MacWEEK, P.O. Box 1766, Riverton, N.J. 08077-7366. Second-class postage paid at New York and additional mailing offices. Printed in U.S.A. Canadian GST registration number is R140496720.

# Quix: Mac OS on PReP

## Software unlikely to reach end users

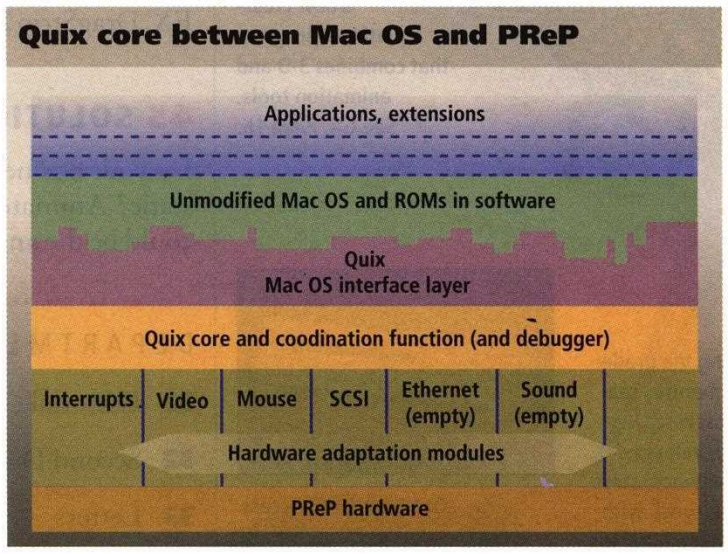
**By David Morgenstern**

A small Swiss company aims to give PowerPC Reference Platform computer owners an early taste of the Mac OS but hasn't yet convinced Apple that it can deliver.

Quix Computerware A.G. of Ebikon, Switzerland, is showing developers BridgeHead, prerelease software that lets the Mac OS run on PowerPC Reference Platform, or PReP, machines and other PowerPC systems. A similar capability is not expected from Apple and its PowerPC partners until late 1996, when machines based on the Common Hardware Reference Platform (CHRP) specification will be available. CHRP machines will run any of six operating systems, including the Mac OS.

Quix said its software should be completed by January, though without Apple's consent, BridgeHead is unlikely to ever be available for sale.

BridgeHead provides three layers to connect System 7.5.1 to PowerPC systems: an OS interface layer; a core coordination layer that provides an API; and a hardware-adaptation layer that comprises more than 20 driverlike modules, including CPUs, I/O, low-level interrupts and video.




Quix said about 95 percent of the object-oriented BridgeHead is written in C++ and requires no modification or special extensions to the Mac OS. BridgeHead does not currently have drivers for sound, Ethernet or floppy drives; it does support external SCSI and CD-ROM drives. In addition to the Mac OS, BridgeHead requires a software version of the Mac ROMs.

Apple confirmed that it is negotiating with Quix but expressed reservations about granting the company a license for the Mac OS. Support is a stumbling block, according to David Nagel, senior vice president of R&D. Although BridgeHead enables some Mac OS services, he said, it does not offer the level of quality users expect from Mac products.

Quix pointed to its experience porting the Mac OS to another platform; years ago it licensed the Mac OS for Daydream, software that allowed the Mac OS to run on NeXT workstations.

"For a small market, the NeXT license seemed OK," said Jim Gable, Apple director of common platforms. But Apple said granting a license to Quix's previous product does not mean it will accept the PReP version.

Gable said IBM Corp. and other PReP hardware vendors are asking Apple to accept BridgeHead. Analysts said the software would expand the number of applications available to the platform and boost weak PReP sales, which have been limited to technical workstations and servers.

However, Apple is focused on the forthcoming CHRP designs and is not particularly concerned with providing support for the short-lived PReP market. "I can see where IBM is interested, but it doesn't make a whole lot of sense for us," Nagel said.

Apple said it wants to avoid splintering the current solidarity behind CHRP as the future standard PowerPC architecture. It said it does not want to create generations of semicompatible systems that run variants of the Mac OS. "It's a nightmare in the Wintel world; we don't want to send [the Mac OS] architecture off in funny directions," Nagel said. □

# CorelDraw pencils in Mac platform port for 1996

**By Cate C. Corcoran**

Recent news from Corel Corp. has a familiar ring for cross-platform graphics users desperately seeking CorelDraw for the Mac. After announcing plans to port its popular package of Windows graphics applications to the Power Mac last year — without result — the company now says it is "serious about the Mac platform" and is "going ahead with the project."

Corel said it will concentrate on getting a Power Mac version of CorelDraw into the market before working on a 680x0-based version. It said native CorelDraw is slated to ship sometime in 1996. According to Eid Eid, Corel director of development, file-format compatibility between the Mac and Windows is a top priority for the port.

Chris LeTocq, software analyst for SoftTracks in Los Altos, Calif., said: "On the Windows side, CorelDraw has a unique position as a value-volume player, and yet there are a lot of professionals who use it. I think competitors will find that in mixed environments, they'll be up against it a little bit. When there is a business with CorelDraw on many Windows machines and they want a cross-platform app, they'll stick with CorelDraw."

LeTocq also said he thinks Corel's plans bode well for the Mac market. "When was the last time you heard of a major application vendor moving to the Mac?" he said. "It is a good sign." □

# SpeedDoubler suite makes expo debut

**By Stephen Howard**

Connectix Corp. wasn't expecting another utility software hit on the scale of RAMDoubler, but it may have one. Last week the company shipped SpeedDoubler, a combination of Power Mac add-ons.

The company also showed a videoconferencing program and a rewrite of QuickCards aimed at Mac-based consumers.

Connectix opened the Macworld Expo in Boston by shipping its three-component SpeedDoubler, which comprises a faster 680x0 emulator, a new disk cache and a Finder-copy accelerator. Each function in the $99 utility is performed by a system extension that has no interface.

Product manager Brian Grove said SpeedDoubler is "the ultimate FileMaker Pro accelerator," since the database is not native on Power Macs and is disk-intensive. In general, programs are sped up 30 percent to 100 percent by the SpeedDoubler extensions, Grove said. Even some native programs contain several non-native functions, such as the spelling checker in Word 6, and so run faster.

The Connectix booth also held a beta version of VideoPhone, a low-cost videoconferencing program for Connectix's QuickCam and other video cameras.

VideoPhone, due in September for an undetermined price, is based on QuickTime Conferencing, the long-distance multimedia system extension Apple shipped last week. Indeed, VideoPhone was originally developed at Apple and then licensed to Connectix.

Thom Hogan, Connectix group product manager, said the first version of VideoPhone will work only over LANs, but revisions within the first six months will add conferencing over phone lines and compatibility with the Internet-conferencing standard, CU-SeeMe from White Pine Software Inc.

Also due in September is a revamped version of QuickCards, Connectix's consumer program for creating self-running, interactive greeting cards.

Connectix Corp. of San Mateo, Calif., is at (415) 571-5100 or (800) 950-5880; fax (415) 571-5195. □

**Digital Hallmark: Connectix's QuickCards, still in beta testing and expected in September, will let consumers design interactive greeting cards.**

# Power Mac ramp up in works

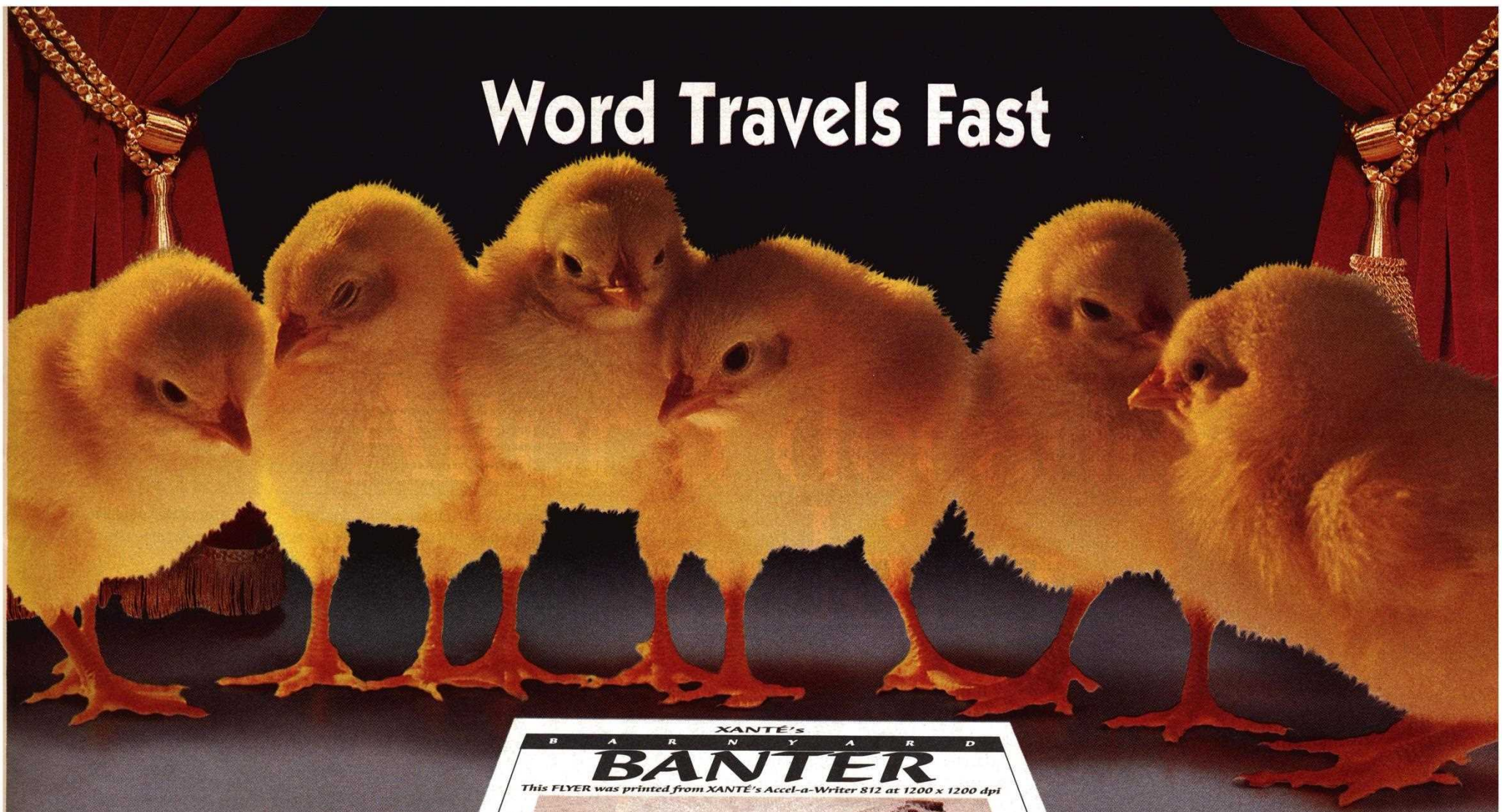
After predicting shortages of new Power Macs last week, Apple reversed course, insisting that plans are now in place to ensure more new machines will ship during this Christmas season.

At Boston's Macworld Expo, Chief Financial Officer Joe Graziano had said that unexpectedly strong demand for new Power Macs would probably keep them scarce into the early part of 1996.

Changing its tune later in the week, Apple modified the projection and said it was acting to increase the number of units available during the fourth fiscal quarter of 1995, ending in September, by 25 percent from the previous quarter.

Apple also said the ramp up will result in 50 percent more units available by the first fiscal quarter of 1996, ending December 1995, than were available in the third fiscal quarter, which ended in June. □

# Word Travels Fast



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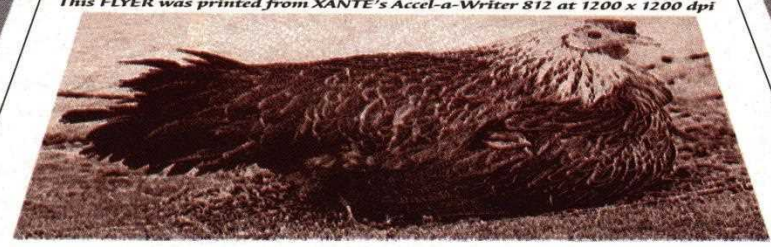

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# SyQuest challenges Zip

## Ships low-cost removable drive

**By David Morgenstern**

Turning up the heat on the low-cost storage market, SyQuest Technology Inc. at Macworld Expo in Boston last week released its EZ135, a speedy drive that uses 135-Mbyte removable hard disk cartridges.

Priced somewhat higher than Iomega Corp.'s $199 Zip drive, the $239.95 EZ135 offers about twice the performance, SyQuest said. It has a sustained data transfer rate of 2.4 Mbytes per second and an average access time of 13.5 milliseconds, compared with the Zip's 1-Mbyte transfer rate and 30-millisecond average access time.

The SyQuest drive ships with a single $19.95 cartridge and uses a plastic shell similar to SyQuest's other 3.5-inch cartridges. The new media is incompatible with SyQuest's 270- and 105-Mbyte cartridges and Iomega's Zip media.

Analysts said SyQuest can leverage its long experience in the Mac market to lure new low-end users to the EZ device. International Data Corp. of Framingham, Mass., predicted sales of 200,000 units this year.

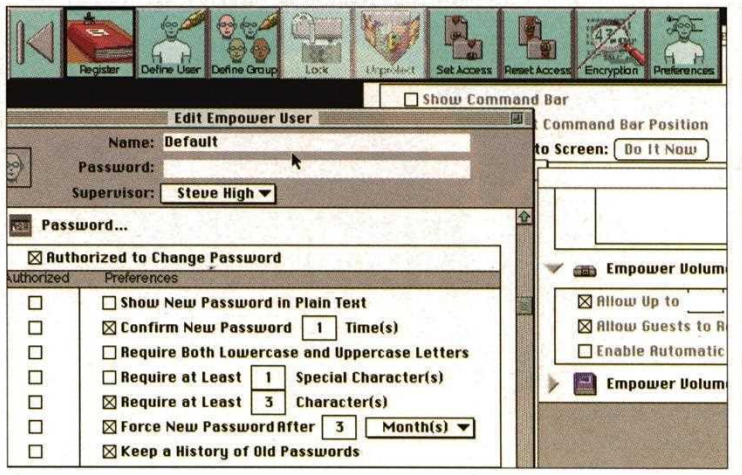
Just as Iomega ran into problems handling the high demand for its Zip media, some analysts said SyQuest may run into a similar shortage.

According to Stan Corker, an analyst at IDC, the EZ135 cartridges use inexpensive platters rejected by manufacturers for everyday hard drives; although the two-sided platters cannot be used in a hard drive, they can be used, single-sided, in the EZ135. SyQuest said it expects to meet demand for both drives and media.

In other news, SyQuest recently showed a prototype 1.3-Gbyte 3.5-inch drive that it said will compete with Iomega's 1-Gbyte Jaz and Nomaï USA Inc.'s 540-Mbyte MCD 540 3.5-inch removable hard disk drives (see story below). SyQuest said it expects to introduce the high-capacity model in 1996.

SyQuest Technology Inc. of Fremont, Calif., can be reached at (510) 226-4000 or (800) 245-2278; fax (510) 226-4102. □

A departure from its previous boxy enclosures, SyQuest's new EZ135 removable-cartridge drive sports a snappy style.




Magna's Empower 5.0 adds a graphical interface and customizable default settings; the Professional version also features multiple supervisor levels.

# Magna hones interface, options in security app

## Empower line now costs less

**By Nathalie Welch**

Attempting to simplify the process of safeguarding your Mac, Magna last week upgraded its Empower line of security software with a new graphical interface and predefined user settings.

Shown at the Macworld Expo last week in Boston, the company's Empower line blocks unauthorized access by requiring users to enter a name and password.

Empower 5.0 is $129; Empower Professional 5.0, which adds file-, folder-, Trash-, control panel- and application-access controls, is $219. The packages sport a new naming scheme as well as lower prices; previous versions were $169 and $295, respectively.

Besides a revamped user interface and customizable default settings, Version 5.0 now lets administrators define privileges for groups of users instead of on a user-by-user basis. An administrator can now define up to 76 security options per user, such as granting the ability to change passwords; the previous version supported only six.

Empower Professional 5.0 lets administrators add an unlimited number of supervisors, who can perform all functions except modifying the administrator's password. The previous version offered three security levels — guest, user and administrator.

Users can also create a predefined message that appears on the Mac's screen upon start-up, a feature that can be used to provide contact information in the event of computer theft, according to Magna.

By November, the company said, it expects to ship a new version of its $395 remote-administration program. The package, to be called Empower Administrator, will be able to reset Macintosh internal clocks and control software licenses. Pricing has not yet been determined.

Upgrades from Empower I to Empower 5.0 start at $47; upgrades from Empower II to Empower Professional 5.0 start at $78.

Magna of Campbell, Calif., can be reached at (408) 879-7900; fax (408) 879-7979; magna@cup.portal.com. □

# Nomaï joins removables race with MCD 540

**By Cate C. Corcoran**

Spurred by announcements of forthcoming high-capacity, removable hard drives, Boston Macworld attendees were eager to see Nomaï USA Inc.'s entry into the field last week.

The MCD 540, Nomaï's single-platter cartridge drive, will use Winchester hard disk technology to pack 540 Mbytes into a 3.5-inch removable cartridge (see MacWEEK, Jan. 16, Page 4). According to the company, the MCD 540 will sport an access time of 10 milliseconds and have a sustained transfer rate of 4 Mbytes per second. The drive will be compatible with SyQuest Technology Inc.'s 270-Mbyte 3.5-inch cartridges.

Pricing for the drive and cartridges, slated to ship later in the third quarter, has not been set, but the company said it expects the drive's price to be close to $600 and cartridges to cost about $60.

Jim Porter, president of Disk/Trend Inc. of Mountain View, Calif., said the MCD 540 will go head-to-head with Iomega Corp.'s forthcoming 1-Gbyte Jaz drive (see MacWEEK, June 5, Page 1) and a 1.3-Gbyte drive reportedly demonstrated by SyQuest. If all three drives ship at their planned delivery times, Nomaï will be the first to have a high-capacity drive on the market. The Jaz, code-named Viper, is planned for a fourth-quarter release; SyQuest has said its 1.3-Gbyte offering will ship sometime in 1996.

Nomaï has said its MCD 540 will be incompatible with other companies' high-capacity cartridges. It is likely that its competitors will have the same limitation. "Customers will react nervously to the compatibility issue," Porter said.

Nomaï USA Inc. of Boca Raton, Fla., can be reached at (407) 367-1216 or (800) 556-6624; fax (407) 391-8675; Nomaï.usa@applelink.apple.com. □

# NuBus-to-PCI chassis ships

**By James Staten**

Mac users who have made a significant investment in NuBus cards can now trade up to the PCI-based Power Macs without worry, thanks to Second Wave Inc., which last week shipped a series of NuBus-to-PCI expansion chassis.

The Xpanse PN series, shown at last week's Macworld Expo in Boston, includes a PCI interface card; a cable; and an external expansion chassis with two, four or eight NuBus slots.

Second Wave said that since the chassis works through the PCI interface, users will experience a slight increase in card performance over the NuBus Power Macs.

"You're going from a 10-MHz bus with throughput ranging from 10 to 12 Mbytes per second to a 30-MHz bus with throughput of up to 100 Mbytes per second," according to Niles Carter, a sales representative with the company.

The Xpanse PN200, priced at $795, provides two NuBus slots, while the $1,095 PN400 has four slots.

The $1,795 Xpanse PN800 comes with eight slots and is available in a desktop or rack-mountable enclosure.

Second Wave Inc. of Austin, Texas, can be reached at (512) 329-9283; fax (512) 329-9299; D0864@applelink.apple.com. □

# DayStar cuts prices on accelerators

DayStar Digital Inc. announced price cuts of up to 20 percent on its 100-MHz PowerPC 601 processor upgrade boards for 680x0-based Macs at last week's Macworld Expo in Boston.

The 100 MHz Turbo 601, which includes a 256-Kbyte cache and fits into the processor direct slot of the Mac IIci, IIsi, IIvi, IIvx and Performa 600 models, was cut in price by $300, to $1,499.

The 100 MHz PowerPro 601, which features a 1-Mbyte cache and fits the Centris and Quadra 610, 650, 700, 800, 900 and 950, fell $200, to $1,599.

DayStar Digital Inc. of Flowery Branch, Ga., can be reached at (404) 967-2077 or (800) 962-2077; fax (404) 967-3018; marketing@daystar.com. □

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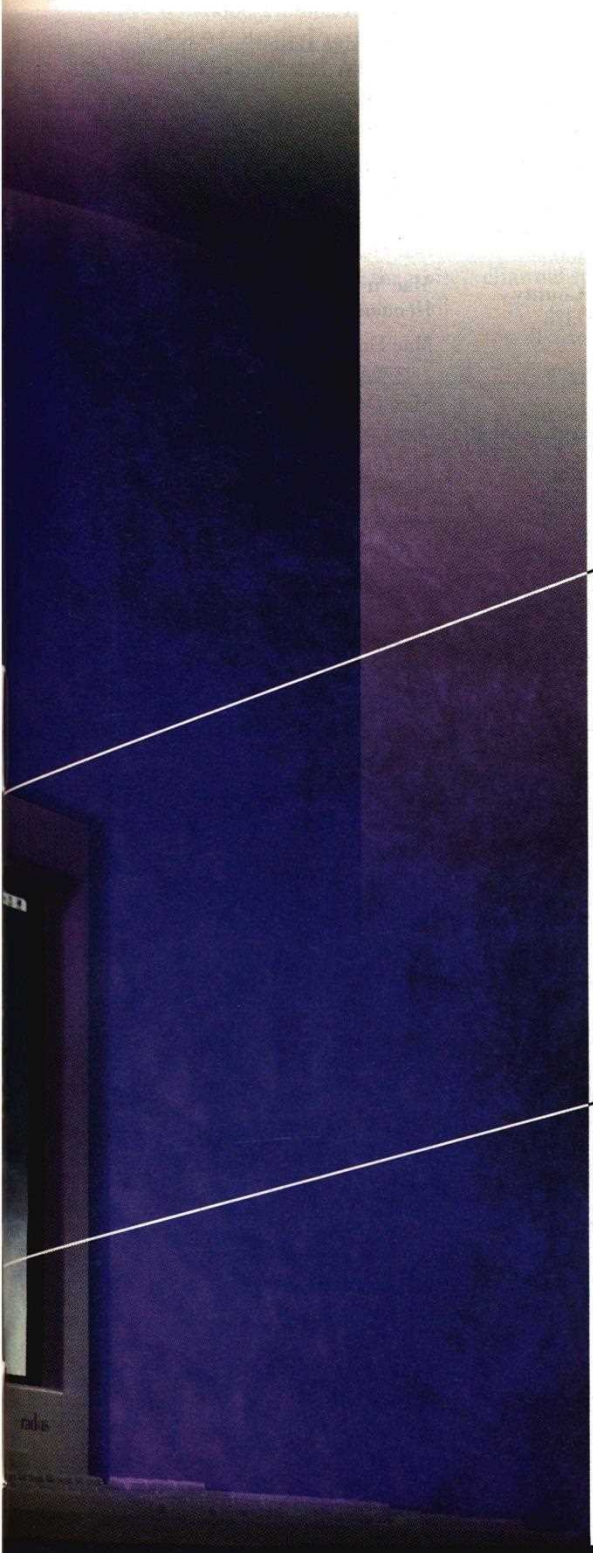

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# MicroNet lines up new arrays

**By Nathalie Welch**

MicroNet Technology Inc. delivered a full catch of storage at last week's Macworld Expo in Boston, including updates to its RAIDbank arrays and magneto-optical drive.

The RAIDbank Pro LCD is a new version of the company's high-performance hardware-controlled RAID system. The six-bay enclosure will feature an LCD control panel with a keypad that lets users configure the array and monitor performance. Slated for release by September, the unit without hard drive modules will cost $6,099.

Due this month is MicroNet's RAIDbank Plus for PCI, the latest addition to the company's software-controlled modular array line. Using the same six-slot enclosure as the LCD configuration, the new Plus will come with a Raven Professional Fast and Wide SCSI-2 PCI board. Based on technology from ATTO Technologies Inc., the card will be available with either one or two ports. When purchased without drive modules, the one-channel system will be $3,335; the two-channel system will be $4,070.

MicroNet said later this month it will also release Raven 8100 2.0, a currently unpriced update to its $295 RAID software. The company said Version 2.0 will feature multimedia optimization and offer data striping for multiple-card setups as well as dual-channel PCI cards.

The company recently released its $2,150 Advantage 1.3GB, a 5.25-inch MO drive. The mechanism features a 4-Mbyte cache and sports average read and write times of 1.2 and 1.8 Mbytes a second, respectively, MicroNet said.

Also unveiled at Macworld Expo were additional modules for MicroNet's DataDock modular storage system (see MacWEEK, May 8, Page 4). New Fast and Wide hard drive modules in capacities of 1.8, 2 and 4 Gbytes cost $1,960, $1,390 and $2,110, respectively; a 500-Mbyte Fast SCSI-2 module is $370.

MicroNet said that modules with SyQuest, MO and DAT removable-media mechanisms are now shipping.

MicroNet Technology Inc. of Irvine, Calif., is at (714) 453-6000; fax (714) 453-6001. □

# Virex bundled with Performas

Datawatch Corp. this month announced a bundle that puts its anti-virus software on board Apple's latest Performas.

The company's Virex 5.5.3 package is included with Apple's new Performa 5200 and 6200 CD series. It retails for $99.95.

This week the company released a Version 5.6 upgrade that scans files as they are downloaded. Performa users who own the bundle can upgrade for $34.95.

Datawatch Corp. of Wilmington, Mass., can be reached at (508) 988-9700; fax (508) 988-2040. □

# NEC delivers speedy seven-slot CD loader

**By David Morgenstern**

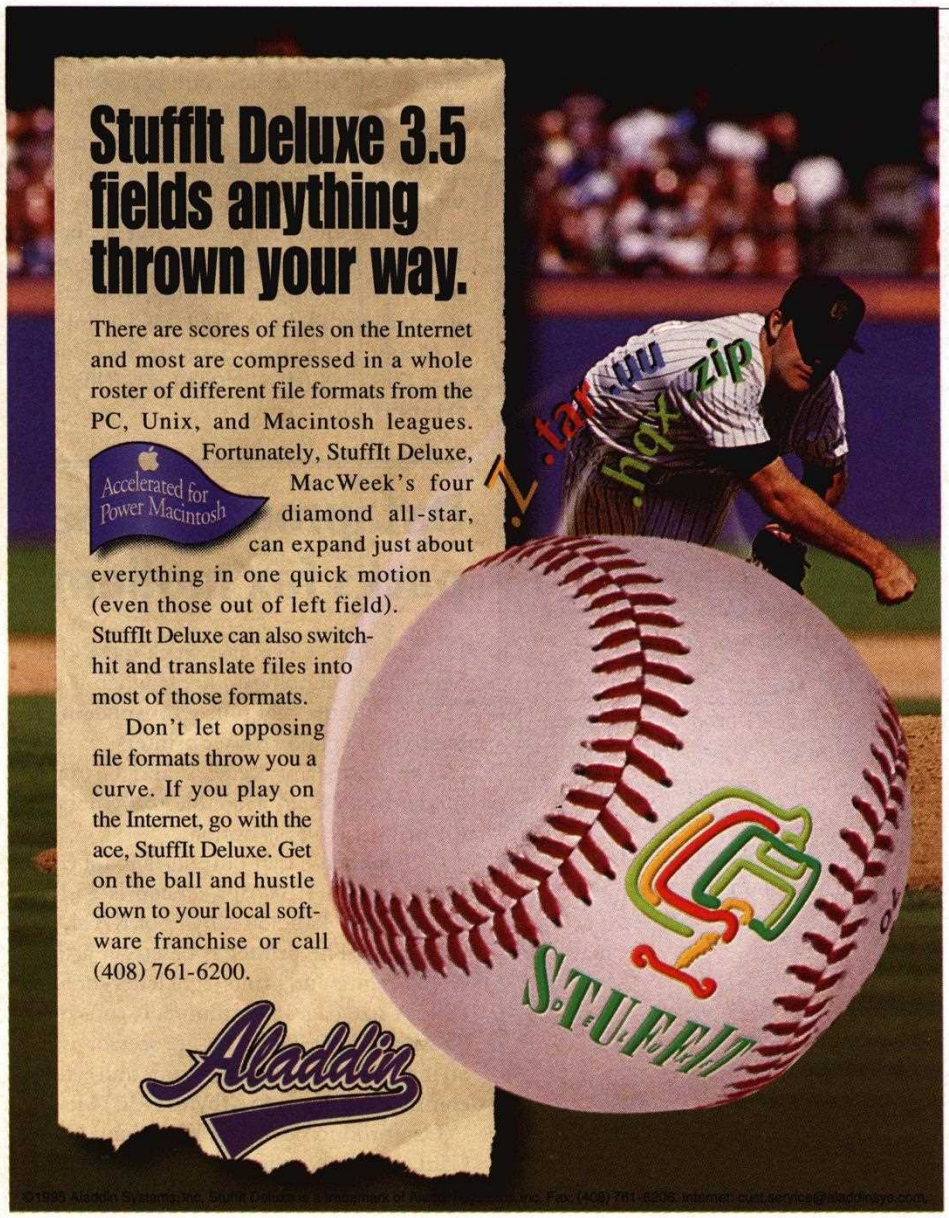
NEC Technologies Inc. put a faster spin on multiple CD-ROMs last week when it released a new quadruple-speed drive with a seven-slot autoloader.

The $349 MultiSpin 4Xc replaces NEC's $429 double-speed model. The proprietary drive mechanism uses a 128-Kbyte cache and has an average access time of 350 milliseconds. It supports Mac Hierarchical File System, CD-ROM XA, Photo CD, Digital Audio, CD-I, Video CD, Enhanced CD and CD Plus formats, including multisession standards.

Analysts said the low price of the MultiSpin 4Xc will pull sales away from single-disc drives for users upgrading to a quad-speed drive. "It's a real advantage for users of nongame applications such as research, reference and publishing," said Julie Schwerin, president of InfoTech Inc., a CD-ROM market analysis company based in Woodstock, Vt.

NEC Technologies Inc. of Boxborough, Mass., is at (708) 860-9500 or (800) 632-4636; fax-back (708) 238-7800 or (800) 366-0476. □

**NEC's quad-speed MultiSpin 4Xc uses a tray-feeding mechanism that can hold up to seven CD-ROMs.**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# Alps to tie touchpads to keyboards

**By James Staten**

Desktop users envious of the touchpad provided on PowerBook 500 models will soon be able to let their fingers do the walking, thanks to Alps Electric (USA) Inc.

At Macworld Expo in Boston last week, the company demonstrated three new input devices that feature Alps' GlidePoint touchpad. Like Apple's technology, Alps' capacitive input device converts finger movements over its surface into on-screen cursor coordinates. In addition, the GlidePoint can interpret taps as on-screen clicks, and it features three programmable buttons.

In November, the company will ship the $159.95 Alps GlidePoint Keyboard, a 106-key device with an integrated touchpad. The keyboard will feature a contoured wrist rest, a 6-foot ADB cable and a unique backspace key located on the left side of a split space bar. Alps said most people use their right thumb to insert a space. With the new keyboard, they will be able to use the left thumb to delete or backspace without having to move their hands from the normal typing position. The keyboard will also include software to swap the functions of the two thumb-positioned keys or set both as the space bar.

In October, Alps will ship an 18-key customizable numeric keypad with an integrated GlidePoint, priced at $149.95, and a larger version of its current portable GlidePoint, priced at $99.95. The bigger touchpad will measure 3.5 by 4.35 inches, 40 percent larger than the portable unit, and include a movable base.

Alps Electric (USA) Inc. of San Jose, Calif., is at (408) 432-6000 or (800) 825-2577; fax (408) 432-6035. □

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# Drives add MBs to PowerBooks

**By Nathalie Welch**

Memory International last week released two PCMCIA-format hard drives aimed at packing more storage space into Apple's PowerBook lines.

Shown at Macworld Expo in Boston, the $429 PocketDrive 170MB and $649 PocketDrive 260MB offer average data transfer rates of 5.7 Mbytes per second and 3.5 Mbytes per second, respectively. Both models offer 12-millisecond access times and an MTBF (mean time between failure) rate of 250,000 hours.

The Type III PCMCIA devices can be used in PowerBook 500 machines equipped with the $219 PowerBook PCMCIA Expansion Module. Apple's PowerPC-based PowerBook 5000 series, due to ship next month, according to sources, will come standard with a Type III PCMCIA slot.

Memory International of Irvine, Calif., is at (714) 588-0488 or (800) 266-0488; fax (714) 453-8103. □

# Dataproducts laser packs fax modem

Dataproducts Corp. last week gave PostScript fax technology a boost when it unveiled a bundle that puts a fax modem on board its Typhoon 8 laser printers.

The PostScript Level 2 and Group 3 modem had been available to owners of the printer as a $349 option.

A Typhoon 8 that outputs 600 dpi costs $2,699, and a 1,200-dpi version is $5,199; they include 4 and 36 Mbytes of RAM, respectively. The printer is based on a Fuji Xerox engine and prints eight letter- or four tabloid-size pages per minute. It runs on a 25-MHz IDT 3081 RISC processor with an integral FPU (floating-point unit); it accommodates up to 68 Mbytes of RAM.

Dataproducts Corp. of Woodland Hills, Calif., can be reached at (818) 887-8000 or (800) 980-0374; fax (818) 887-4789. □

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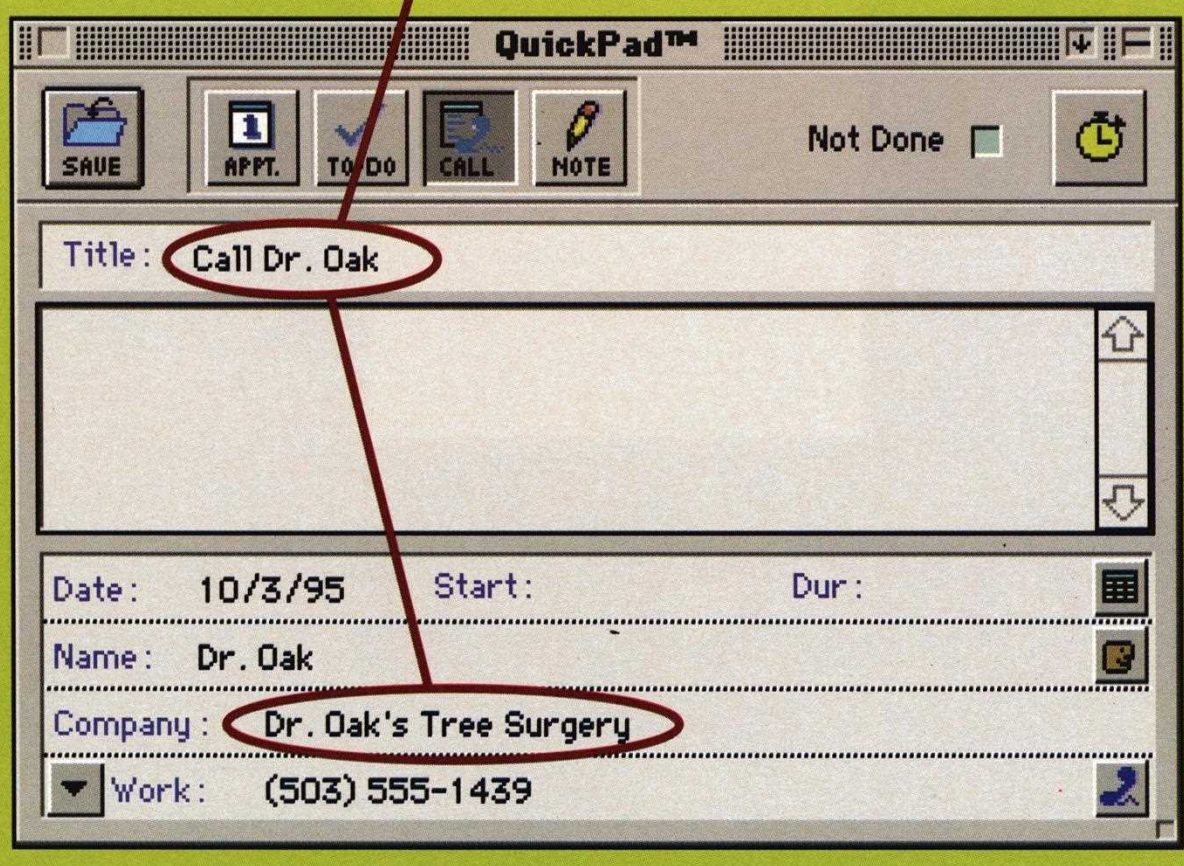


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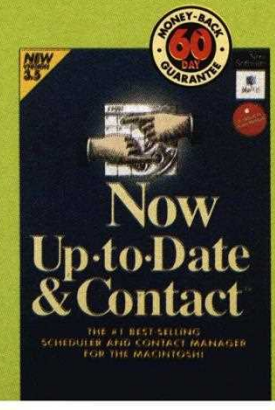

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Is racing.
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Are racing
To keep up
With your thoughts.

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A new
Sentence with
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This mistake
Is corrected
Automatically.

YOU REVISE

Knowing there are
100 levels
Of Undo.
And 100 levels
Of Redo.
Just in case.

YOU WRITE

You begin a new
Sentence with
An abbreviation
You created.
It becomes
An entire phrase.
Automatically.

YOU REVISE

In
Print preview
You change
Margins
Words
Typefaces.

YOU WRITE

Until you have finished.
You click AutoFormat.
And the block of words
Can become
A letter.
A proposal.
A story.
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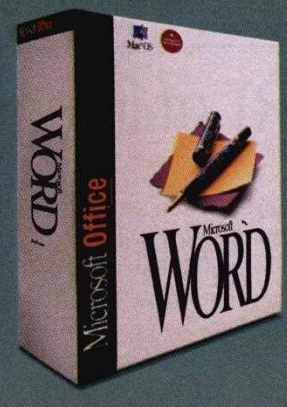
You write. Because you can.

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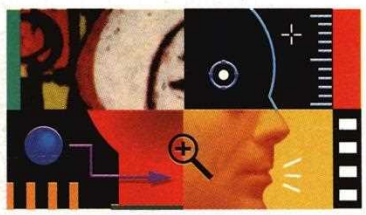


# GA

**3-D APP FINDS HOME**

**San Francisco's Electric Café Inc. has acquired ModelShop, formerly Macromedia's architectural application.**



# Animation, 3-D united in Ray Dream Studio

## Designer upgrade has Scene Wizard

**By Connie Guglielmo**

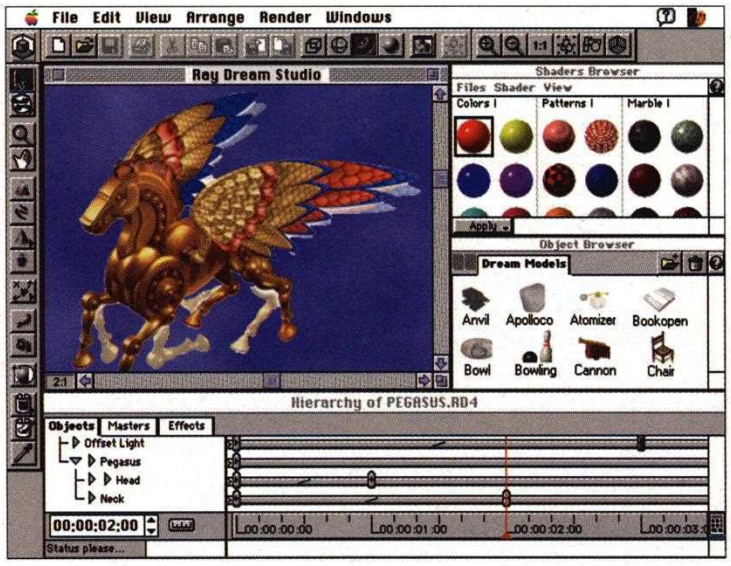
Los Angeles — Apple wasn't the only one making news with 3-D technology at Siggraph 95, the premiere graphics symposium held here last week. Ray Dream Inc. announced a new cross-platform program called Ray Dream Studio that combines 3-D and animation tools.

Due in late October for $499 for 680x0 and PowerPC Macs as well as Windows machines, Ray Dream Studio includes Ray Dream Designer 4.0, the latest release of the company's 3-D illustration program. Version 4 will also continue as a stand-alone; upgrades will be available for Ray Dream 3 users, although pricing has not been set.

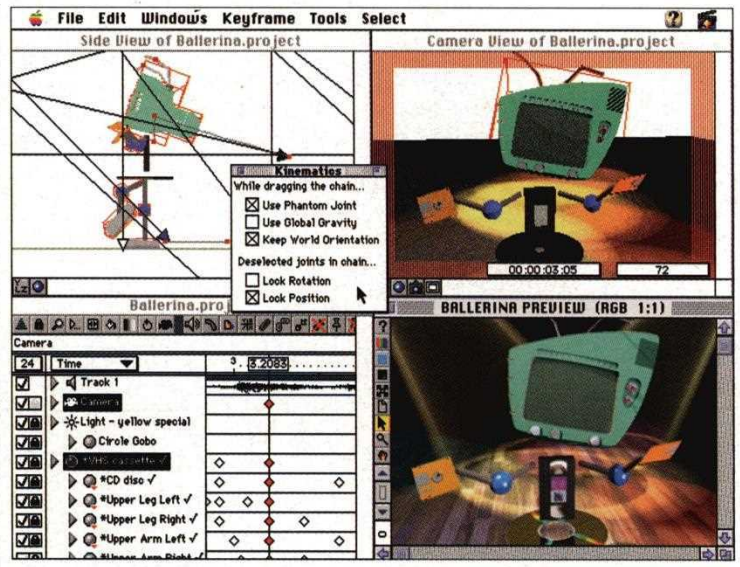
The Ray Dream suite is made up of four components:

- **Ray Dream Designer 4** offers modeling, scene composition and rendering tools. Complex color 3-D images can be enhanced using perspective, shadows, lighting effects, textures and reflections. The new version adds the Scene Wizard, a built-in design assistant that provides completed indoor, outdoor and studio scenes, and walks novice users step-by-step through creating custom scenes. Version 4 adds a new Glow channel, which makes objects appear as though they are emitting light.
- **Ray Dream Animator** provides keyframe-based animation, in which events (such as music, zooms and special effects) can be defined for each object in a scene or frame. The program contains a time line that gives users control over every attribute (such as position, texture and scale) of an object, camera, light or entire scene. It also includes seamless inverse kinematics, which allows users to link objects together so they can be manipulated as a single object. Rotoscoping is supported, allowing users to place Microsoft Video (AVI) and QuickTime movies within animations as texture maps and to paint shapes on objects and backgrounds.
- **Dream Models** provides more than 500 editable textured models

*See Studio, Page 19*




**Ray Dream's new Studio application includes animation tools as well as the new version of Ray Dream Designer, the company's 3-D illustration program.**




**Inverse kinematics, a feature of ElectricImage Animation System 2.5, lets animators create lifelike movement in the joints of animated characters.**

# ElectricImage adds inverse kinematics

**By Cate C. Corcoran**

Electric Image Inc. recently shipped ElectricImage Animation System 2.5, the latest version of the company's high-end desktop animation and production tool. For professional animators, the upgrade offers realistic joint movement, network rendering, new lighting effects and more plug-ins.

Priced at $7,495, the ElectricImage Animation System 2.5 includes an inverse kinematics feature that automatically makes joints in an animated character behave like real-world joints. Users can adjust constraints, linkage

*See ElectricImage, Page 19*

# ART of image compression

**By James Staten**

Johnson-Grace Co. last week released to developers free trial copies of an image-compression engine that creates graphics files optimized for fast download over dial-up connection to the Internet and on-line services.

ART Press, an authoring system for Mac and Windows, includes an encoder that saves graphics elements in a proprietary format that yields files one-third the size of either GIF (Graphic Interchange Format) or JPEG formats, the company said. The utility accomplishes this using a fuzzy-logic engine that automatically applies the best-suited compression method to any type of image, whether graphic, photo-

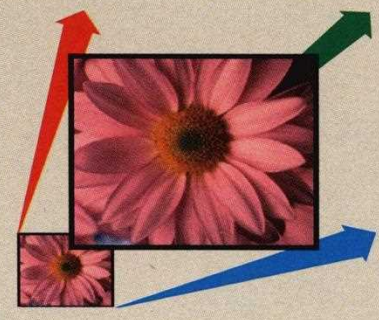
*See ART, Page 19*

**FOCUS ON**

**DIGITAL VIDEO**

# MPEG video comes to your Mac

*The MPEG standard for video compression is beginning to make inroads on the Macintosh. This three-part Focus On will examine MPEG, starting with some technical background this week. In the next two weeks, we'll look at MPEG market realities and MPEG encoding.*



**By Bob Doyle**

With release of the new MPEG Media System card for the LC processor direct slot in the Mac Performa 630 and new 5200 and 6200 systems, Apple has thrown some of its weight toward MPEG in the great battle for multimedia compressor-decompressor supremacy. And, according to sources, the company is also planning a low-cost dual MPEG playback/video-editing PCI card for delivery next year, in part to jumpstart the Mac MPEG market (see MacWEEK, Aug. 7, Page 1), and is also reportedly working to incorporate software MPEG support at the OS level.

Until now, multimedia-quality video on Mac screens has been encoded primarily in Cinepak, a software-only decompressor. On the Intel-standard PC platform, Intel Corp.'s Indeo (which is software-only on playback) has carved out significant market share, helping to sell lots of Pentium processors, since good-quality software-

*See Focus On, Page 19*

File Edit View Label Special

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*Stephen Kahng, Founder, Power Computing Corp. quoted in The Wall Street Journal, April 14, 1995.*

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# Compact scanner saves desk space

**By Matthew Rothenberg**

The Color Partnership last month introduced a drum scanner that offers high resolutions while maintaining a low profile on users' desktops.

The CP4000, available now for $15,995, measures 25 by 10 by 15 inches and weighs just 60 pounds. It ships with a pair of 6-by-8-inch removable drums.

The scanner is manufactured by Juno Enterprises Inc. of Minneapolis. The photomultiplier tube-based device captures eight bits each of CMYK color in a single pass, then optimizes the color data to 24-bit color via firmware. The CP4000 offers drum speeds of up to 1,745 rpm and scans at a maximum resolution of 4,000 dpi. It features a density range of zero to 3.8, The Color Partnership said.

The CP4000 connects to the Mac via a SCSI interface and comes with driver software for Power Macs as well as 680x0-based models.

The included proprietary scanning software, called Colegro, includes a low-resolution preview mode, automatic focus controls, an on-line densitometer, a monitor-calibration option, and automatic sharpening and smoothing tools.

Users can correct 12 colors in CMYK mode and convert the scan to RGB within Colegro, The Color Partnership said. The software saves files in TIFF, EPS, CMYK PostScript, Desktop Color Separation and Scitex CT formats. In addition, Colegro offers a batch-scanning option that lets users simultaneously scan several images mounted on a single drum.

The Color Partnership of Del Mar, Calif., can be reached at (619) 259-8688 or (800) 554-8688; fax (619) 259-8709; info@colorpar.com. □

## ART

*From Page 16*

graphic, typographic or a combination of the three.

When an ART Press image is downloaded, a rough version of the file comes through quickly and is then enhanced and sharpened through a layered stream of additional data, the company said.

"It really helped us in time of compression," said Arthur Eves, graphics director for BusinessWeek, which maintains an electronic edition on America Online and, starting in late September, on the World-Wide Web. "In terms of the user experience, time to download images is crucial."

ART Press includes an image editor that imports graphics and allows the user to scale, crop and manipulate images before compression. Users can then simulate the download performance at various modem speeds using a playback preview feature.

The ART file format is currently in use by publishers on America Online and eWorld. For use on the Web, site administrators will need to mark ART Press images with a new HTML (Hypertext Markup Language) tag. This will allow ART-enabled browsers to access the images. The only such browsers currently available are on the Windows platform, but Johnson-Grace said it is in discussions with several Mac developers to support the format.

To satisfy both ART-capable and non-ART-capable users on the company's Web site, Eves said, "We're essentially loading the artwork twice."

ART Press can be obtained at http://www.jgc.com. The trial version will expire at the end of 1995; pricing for the full version has not been set, the company said.

Johnson-Grace Co. of Newport Beach, Calif., can be reached at (714) 759-0700; fax (714) 729-4643; press@jgc.com. □

## Studio

*From Page 16*

in Ray Dream Designer format.

▶ **Extensions Portfolio** contains plug-in extensions for Ray Dream Studio, including a panoramic camera, disco light effect and layered fog. It also includes the Extensions Tool Kit with documentation describing the API to create custom extensions.

The Ray Dream suite will not initially support Apple's new QuickDraw 3D, but the company said it will supply users with a free updater when support is added.

Ray Dream Inc. of Mountain View, Calif., can be reached at (415) 960-0768; fax (415) 960-1198. □

# Multimedia clip art on CD

**By Cate C. Corcoran**

Clip art isn't just for newsletters anymore. A new series of CD-ROMs from gray matter design offers multimedia developers textures, scripts, buttons, controls, audio clips and video effects that can be plugged into multimedia projects to speed and enhance the authoring process. The contents of all the discs are royalty-free.

▶ **Screen Caffeine Pro** is a $149 collection of graphics, texture-manipulation scripts and examples of uses. The disc's 636 images include backgrounds simulating water, sand and stucco as well as abstract textures such as Bat Cave and Driven Snow. The 24-bit images were composed by a graphic artist (not scanned) in millions of colors in a 640-by-480-pixel, 72-dpi PICT format.

▶ **Instant Buttons & Controls 2.0,** $199, is a group of more than 1,000 fully scripted buttons that can be copied and pasted into projects done with Macromedia Director. Each button, in eight-bit, 16-bit and 32-bit color, has a default click sound attached to it, which can be changed to any of the 150 other button sounds included on the disc. More than 100 backgrounds and a list of interface-design tips are part of the package.

**Instant Buttons & Controls 2 offers about 1,000 fully scripted buttons.**

▶ **Select Effects** is three volumes of video effects, $149 each or $399 for all three. Each volume contains 100 full-motion clips in 320-by-240-pixel JPEG format for QuickTime for Windows and Mac as well as Video for Windows. All clips are also provided in 160-by-120-pixel Cinepak format for QuickTime for the Mac and Windows. Each disc also includes 50 music- and sound-effects clips.

▶ **HiRez Audio** is two $149 volumes of 22-kHz and 11-kHz sounds, including orchestral, funk, rock, pop, acoustic and new age music. Each disc contains 40 minutes of stereo Red Book audio. The sound files are in AIFF (Audio Interchange File Format), Sound Edit and Sound Edit Pro formats.

gray matter design of San Francisco is at (415) 243-0394; fax (415) 243-0396; gmdesign1@aol.com. □

## ElectricImage

*From Page 16*

types, gravity and other settings.

Version 2.5 includes the Renderama application, which permits batch rendering on a single station or rendering across a network. Using Renderama, users can render their projects on local computers connected via Ethernet or LocalTalk or on remote machines linked via TCP/IP connections.

New Light Rays and Smoke features create realistic-looking lighting effects in rendered environments. With Light Rays, users can create spotlight effects and a glowing area around a shaft of light. Using Smoke, users can adjust mist, contrast, density and noise.

A set of tools called Vibe lets users assign Randomize, Jolt and Spring effects to animation paths, which can lend a natural imperfection to movement.

Included plug-ins let users run animation objects through effects filters. Mr. Blobby turns objects into groups of spheres. Dicer lets users apply a grid to an object's surface.

The company said it is planning a forthcoming interim release that will support QuickDraw 3D's metafile format and possibly other features of Apple's 3-D technology.

Upgrades to the new version are $495 from ElectricImage 2.1; $990 from Version 2.0.

Electric Image Inc. of Pasadena, Calif., is at (818) 577-1627; fax (818) 577-2426; electric.img@applelink.apple.com. □

## FOCUS ON

*From Page 16*

only video demands lots of CPU horsepower.

A low-cost MPEG hardware card guarantees MPEG-1 playback rates with perfectly synchronized sound and leaves the CPU free to do other tasks, such as playing a high-speed interactive game.

Whether computer users' acceptance of MPEG will increase with low-cost MPEG playback cards and, eventually, software MPEG decoders depends on other problems that have slowed MPEG, such as incompatibilities between cards and a lack of perfect integration of MPEG into QuickTime and Video for Windows.

Peter Hoddie, Apple's lead engineer for QuickTime, said that MPEG is more than just a compressor-decompressor, like Cinepak or Indeo: It is a complete file format specifying an arrangement of video and audio different from the audio-video interleave schemes of QuickTime and Video for Windows.

MPEG's frame-differencing scheme is very complex. Every 15 or 30 frames it fully encodes a key frame, or I-frame (for intraframe), using an algorithm such as Apple's JPEG, then encodes only the differences for later, predicted frames, called P-frames. In between the I- and P-frames, it encodes further differences, called B-frames, for bidirectional predictions. In order for the computer to decode a given B-frame, the surrounding I- and P-frames must reside in memory.

QuickTime 2.0 added MPEG support so that, in conjunction with an MPEG board, it understands MPEG semantics and can start playback at an arbitrary frame. Behind the scenes, it starts with the closest available I-frame, decodes forward to the frame desired and then starts playing there. However, if the keyframe is several frames away from the desired start frame, this can take additional time, hindering interactivity.

Meanwhile, higher-speed Pentiums and PowerPCs offer the possibility of software decoding of MPEG-1. CompCore Multimedia Inc. of Sunnyvale, Calif.; Mediamatics Inc. of Santa Clara, Calif.; and Xing Technology Corp. of Arroyo Grande, Calif., have developed fast MPEG-playback code that is being bundled with Intel-standard PC video accelerator cards to expand the MPEG to full-screen without pixelization. According to CompCore's Ron Richter, vice president of sales and marketing, the company is working with Apple to get its SoftPEG code, which currently runs on the PowerPC chip, working on the Macintosh OS and integrated into QuickTime technology.

Web-surfing Mac users already have a software MPEG solution: Sparkle, a freeware application developed by Maynard Handley. You can judge Apple's level of interest in software MPEG by the fact that the company has acquired Sparkle and hired Handley. □

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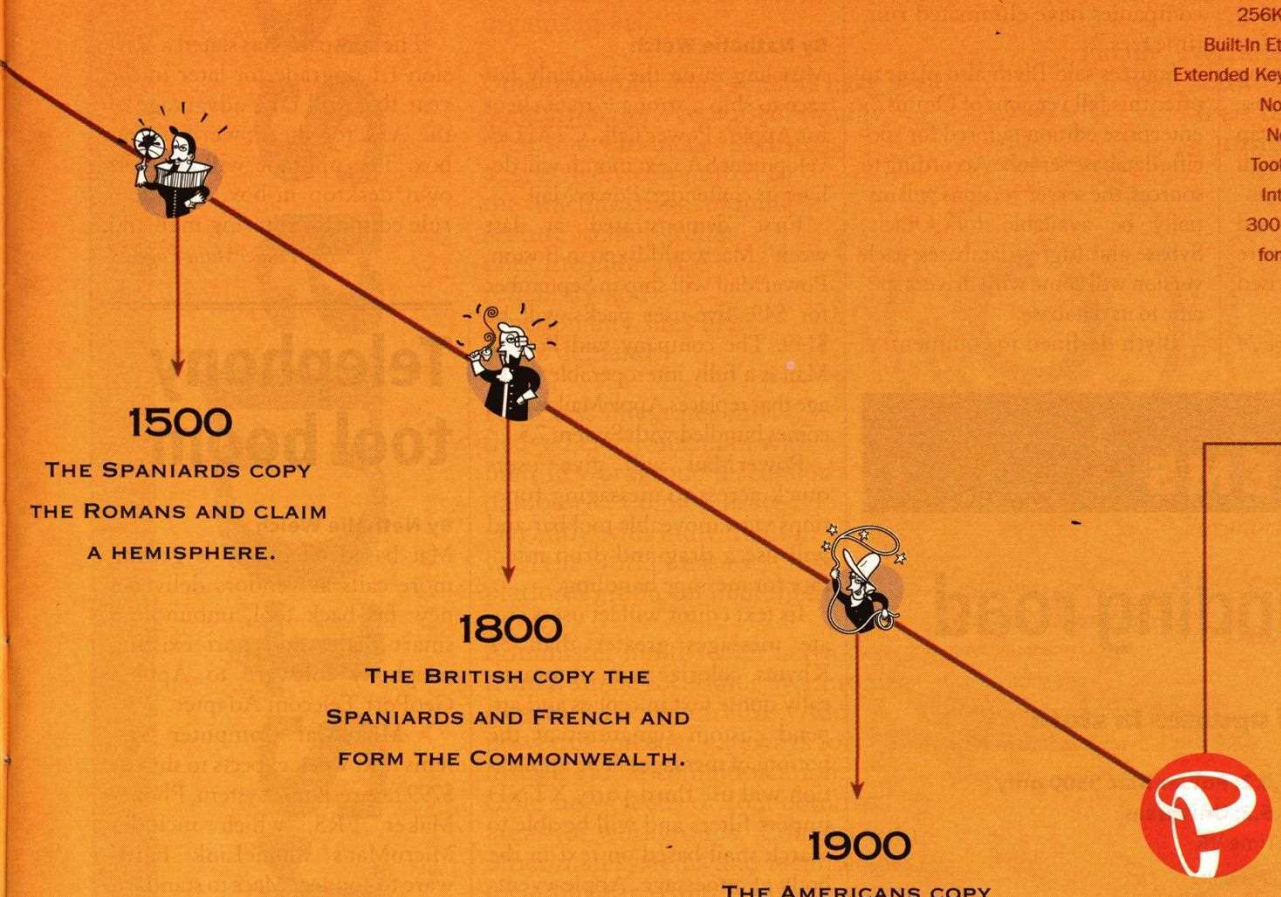

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**GEOPORT UPDATE**

**Apple Telecom 2.1 software, released in July, includes updates for internal fax modems only.**

# Stand-alone Omnis7 due

## Blyth working on Oct. release

**By Clifford Colby**

Blyth Software Inc. will reportedly once again turn its attention to desktop databases this fall when it divides Omnis7 into two product lines, one for stand-alone use and another for client-server development.

Sources said the Foster City, Calif., company plans to ship in September or October Omnis Desktop, a single-user version of its database-development application. According to sources, Omnis Desktop will come with a built-in local SQL database and include Omnis SQL interfaces.

"Blyth left the desktop in about 1990 and went for the client-server corporate world," said one source familiar with the product. "They abandoned competition against [ACI US Inc.'s] 4th Dimension and others at the desktop level. I think it is very welcome news that Blyth has returned to the desktop environment."

The stand-alone version will reportedly be based on Version 3 of Omnis7 but will lack that program's networking capabilities and version controls.

According to sources, Desktop will initially be available for 680x0 Macs, Power Macs and Windows 3.x machines, with Windows NT and Windows 95 versions due later this year. Blyth is reportedly considering a price of $495 with a $50-per-user runtime fee.

"Blyth still needs to address runtime licensing," said one informed developer. "Most major companies have eliminated runtime fees."

Sources said Blyth also plans to offer this fall versions of Omnis7's enterprise edition tailored for specific database servers. According to sources, the server versions will initially be available for Oracle, Sybase and Ingres databases; each version will come with drivers specific to its database.

Blyth declined to comment. □

# Dayna deals combo cards

**By Clifford Colby**

Dayna Communications Inc. announced at Macworld Expo in Boston last week that it will release a new line of PCMCIA cards. The new CommuniCard devices will take advantage of Version 2 of the PCMCIA standard.

The LAN-connectivity and modem CommuniCards are intended for PowerBooks with PCMCIA slots, including the upcoming 5300 series. The new PowerBooks, due in September, will reportedly support the Version 2 PCMCIA standard, which lets users swap cards while running and allows the PowerBooks to use multiple-function cards. Users can also employ PCMCIA cards with the 500-series PowerBooks in tandem with Apple's PCMCIA card cage; the current PowerBooks are not compatible with the revised card standard, however.

*See Dayna, Page 24*

**FOCUS ON**

## OPERATING SYSTEMS

# System 7.5's long, winding road

**By Robert Hess**

The evolution of the Mac operating system is a fast and furious process, and only the attentive can keep up. While Windows users may languish for years between incremental updates to their operating system, Apple has proven willing to fix bugs and regularly introduce new technologies.

Today, some version of System 7.5 is the standard Mac OS. Since its initial release in August 1994, it has been updated twice, and it is due for several more revisions before retiring.

The first of these was System 7.5 Update 1.0, a package largely comprising bug fixes released in March. When installed, Update 1.0 changed the version number of the OS to 7.5.1. There is also a separately released "universal" version of the System 7.5.1 software, which obviates the need to first

*See Focus On, Page 24*

### Lots of updates in store

**System 7.5.2: Power Mac 9500 only**

**System 7.5.2: Universal**

- QuickTime VR
- QuickDraw 3D
- QuickTime Conferencing

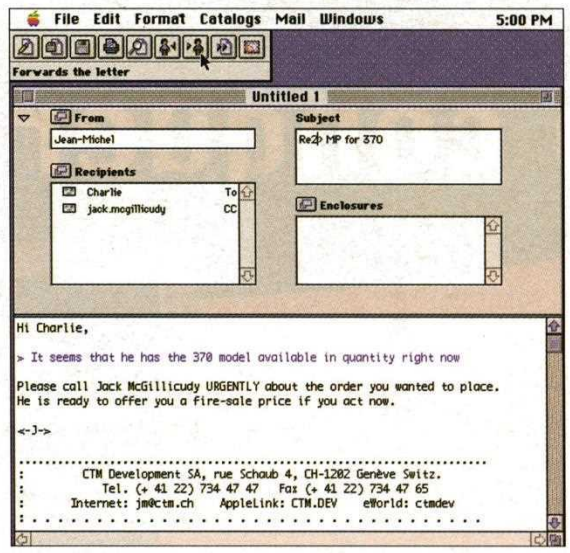
**System 7.5.3: Any prior System 7.5 & System 7.5 Update 2.0**

**System 7.5.3: Universal**

- QuickTime 2.1
- Open Transport 1.1
- OpenDoc

**System 7.5.4: (possible) "Extra" update plus kitchen sink**

**Hardware-abstracted System 7.5.x**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Putting your signature — and color text and quoted references — in PowerTalk messages will be possible, and automated, with CTM's PowerMail. The alternative to AppleMail uses a central tool bar to trigger common functions.

# PowerMail takes dive into PowerTalk fray

**By Nathalie Welch**

Muscling in on the suddenly hot race to ship a stronger mail client for Apple's PowerTalk, CTM Development SA next month will deliver its contender: PowerMail.

First demonstrated at last week's Macworld Expo in Boston, PowerMail will ship in September for $49; five-user packs will be $149. The company said PowerMail is a fully interoperable package that replaces AppleMail, which comes bundled with System 7.5.

PowerMail will give users quick access to messaging functions via a moveable tool bar and will use a drag-and-drop interface for message handling.

Its text editor will let users create messages greater than 32 Kbytes, colorize text, automatically quote text in replies and append custom signatures at the bottom of messages. The application will use third-party XTND import filters and will be able to search mail based on text in the body of a message. Apple-events scripting and WorldScript will also be supported, CTM said.

An application-level receipt function will inform users when a sent message has been read by a remote PowerMail client, even if the mail traveled through intermediate gateways. According to CTM, this feature will not be available from AppleMail until Apple delivers PowerTalk 2.0 in its Copland OS update.

The company has slated a Version 1.1 upgrade for later in the year that will take advantage of the API for the PowerTalk in-box. The upgrade will sport its own desktop in-box, include a rule editor for filtering mail and

*See PowerMail, Page 24*

# Telephony tool boom

**By Nathalie Welch**

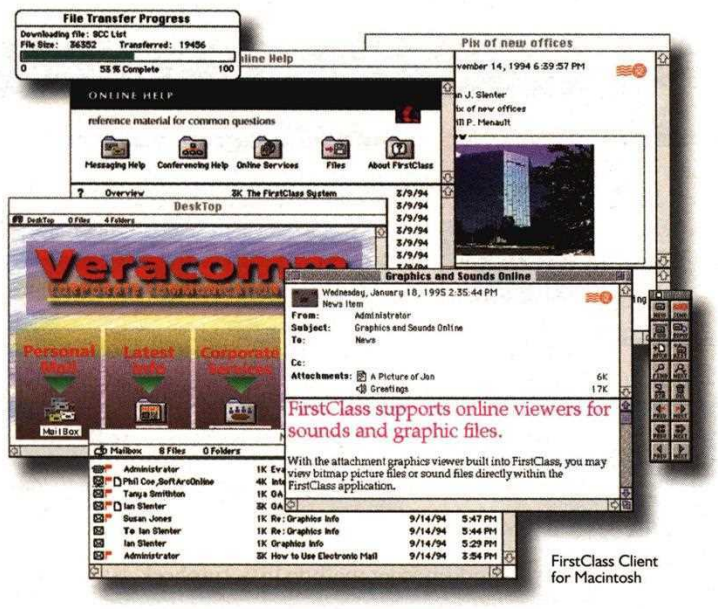
Mac-based telephony is getting more calls as vendors deliver a new fax-back tool, unbundle a smart dialer and port existing telephony software to Apple's GeoPort Telecom Adapter.

▶ **MicroMat Computer Systems** next week expects to ship its $799 fax-response system, PhoneMaker FRS, which includes MicroMat's PhoneLink hardware to connect Macs to standard telephone or PBX lines.

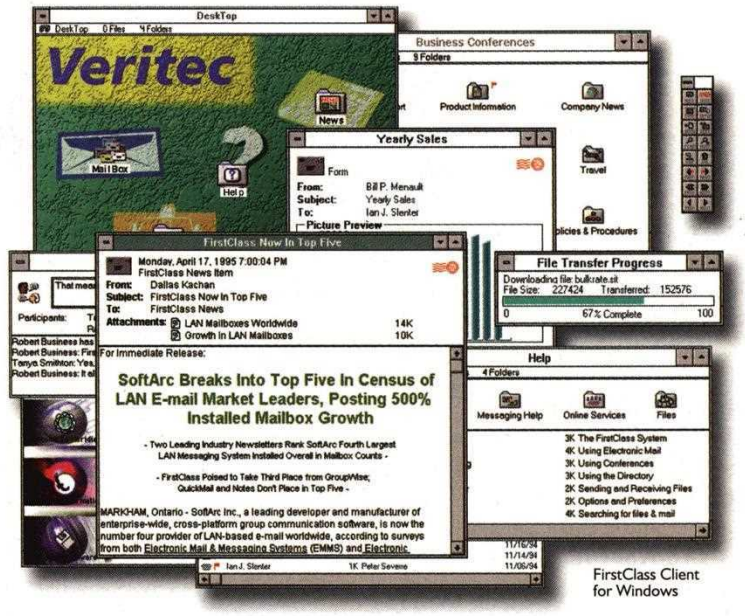
PhoneMaker has a forms-based, drag-and-drop interface for configuring the server. Fax documents are created by printing to a standard Mac printer driver. A library of sounds provides prompts and call tracking.

In addition to two audio inputs and two audio outputs, the hardware sports a digital expansion

*See Telephony, Page 24*




FirstClass Client for Macintosh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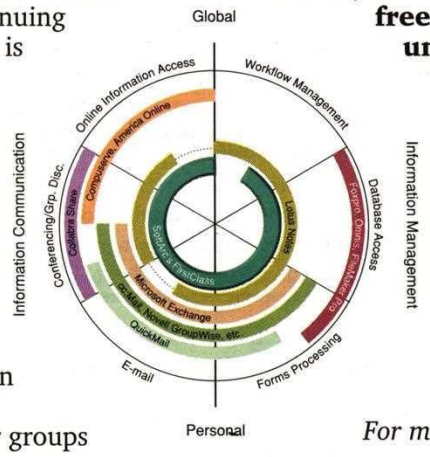


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## Dayna

*From Page 22*

Dayna said it plans to release this month one Ethernet PCMCIA card for 10BASE T connections with a street price of $165 and another for thin-net or 10BASE T Ethernet with a street price of $199.

The company also plans to release this month telecommunications cards: a 14.4-Kbps fax-modem card for about $270 and a 28.8-Kbps modem card that costs $415. Dayna will offer the cards in bundles: A 10BASE T card and 14.4-Kbps modem card will cost $390 together and a 10BASE T card plus 28.8-Kbps modem card will be $510.

Dayna also intends to ship this month the CommuniCard Roamer, a wireless LAN adapter that transmits at 400 Kbps. The PCMCIA card, with an estimated street price of $599, will include an antenna and have a range of 150 feet. The card will be able to connect to a LAN via a network-access-point device.

In October, Dayna intends to offer two dual-mode PCMCIA devices: a Type II card that will combine an Ethernet adapter with a 14.4-Kbps modem and a combo card that will include an Ethernet link and a 28.8-Kbps modem.

Dayna Communications Inc. of Salt Lake City can be reached at (801) 269-7200 or (800) 531-0600; fax (801) 269-7363. □

## PowerMail

*From Page 22*

let users embed QuickTime movies inside mail.

CTM is not alone in pushing alternative PowerTalk mail clients. STF Technologies Inc. of Concordia, Mo., will deliver its STF Mail in early 1996 (see MacWEEK, July 24, Page 1). Stalker Software Inc. of Mill Valley, Calif., last month delivered CommuniGate, a suite of integrated communications modules that can also act as a front end for PowerTalk (see MacWEEK, July 31, Page 12).

CTM has not yet announced U.S.-based sales and support.

CTM Development SA of Geneva, Switzerland, is at (41 22) 734 47 47; fax (41 22) 734 47 65; Ctmdev@eworld.com. □

## Telephony

*From Page 22*

port. Later in the year, MicroMat plans to ship LineGate, an option that puts three phone lines under PhoneMaker control.

- **Cypress Research Corp.** released its MegaDial utility as a separate $79.95 package at Macworld Expo in Boston last week. According to Cypress, MegaDial works with almost any Macintosh communications program to add location settings, credit-card or phone-card controls, and other dialing features. Previously, MegaDial was available in a bundle with the company's MegaPhone, which shipped with Apple's GeoPort Telecom 2.0 software kit.

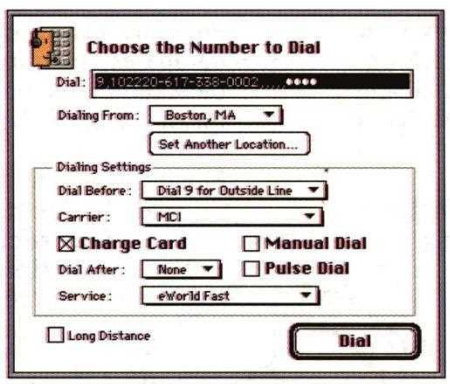
Cypress also recently shipped the $349 PhonePro for GeoPort, which creates telephony applications that run through the GeoPort pod. The software uses Apple's text-to-speech synthesizer to read text prompts over the phone, as opposed to playing back large, digitized sound files. Runtime versions of PhonePro for GeoPort are $199.

- **Pleiades Research Corp.** next month will open up its Front Office to the GeoPort pod. The $299 software is a new version of Pleiades' Digital Storefront Pro voice-mail and fax-back system; Front Office does not require the company's special $395 hardware interface.

MicroMat Computer Systems of Windsor, Calif., is at (707) 837-8012 or (800) 829-6227; fax (707) 837-0209.

Cypress Research Corp. of Sunnyvale, Calif., is at (408) 752-2700; fax (408) 752-2735.

Pleiades Research Corp. of Los Angeles is at (213) 259-1727; fax (213) 259-1728. □




**Cypress Research's MegaDial smart dialing software automates modem-based dialing from virtually any communications program.**

## FOCUS ON

*From Page 22*

install the base OS, followed by the update.

When Apple started introducing PCI-based Macs this summer, it also released System 7.5.2. This update was intended only for those new Macs; it cannot run on earlier models. While visibly identical to 7.5.1, this update included software to make the PCI bus function, added more Power Mac-native code, fixed a long list of bugs and introduced Version 1.0 of Open Transport.

The System 7.5.2 released on the Power Mac 9500 differs from the System 7.5.2 shipped on the PCI Macs released last week. The later version is considered the universal version, though neither is recommended for non-PCI machines.

In a few months, Apple will reportedly release System 7.5 Update 2.0. This package will offer everything that was in Update 1.0 plus many bug fixes, more native software and minor new features (see MacWEEK, July 10, Page 1). Sources said Update 2.0 will install on any version of System 7.5 on any Mac, and it is expected to change the version number of the OS to 7.5.3. A universal version of 7.5.3 will also be available.

Apple said it plans a later, major revision of the OS that will incorporate many new technologies. These add-ons could include an updated Open Transport, QuickDraw 3D, QuickTime 2.1, QuickTime Conferencing, QuickTime VR and OpenDoc. Apple has not announced a delivery date for this update, but most of the software components are finished, and some have been released. If the update is completed soon, sources said, the new OS could ship early next year.

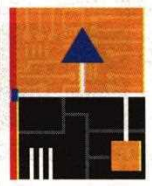
Apple is also reportedly preparing a related but independent project, code-named Extra. Possibly due to appear early next year as yet another System 7.5 update, Extra is said to offer even more bug fixes and native code and will install many new system extensions by default.

In addition to the these midcourse fixes and extensions to the Mac OS, Apple is working with IBM Corp. on a version of System 7.5 that includes a hardware-abstraction layer. Such a software layer would allow the OS to run on hardware that differs substantially from Apple's current systems, such as the Common Hardware Reference Platform machines due in 1996.

No release date or details of the hardware-abstracted System 7.5 have been announced, but Apple reportedly hopes to complete it by early 1996.

All this work on System 7.5 will precede Apple's next major revision to the Mac OS, code-named Copland. The company has promised it will ship Copland in mid-1996, but recent reports indicate that it may not be released until early 1997 (see MacWEEK, Aug. 7, Page 1). □

## NETWORK TRAFFIC



- **InfoSeek engine updated**
- **HTML editors updated**
- **InterCon ships InterServer**

**InfoSeek Corp.** of Santa Clara, Calif., will double the amount of information available through its free World-Wide Web-based search service. The update, due later this summer, will provide a by-subject index as well as more search parameters, which can locate information in Web pages as well as Usenet newsgroups, FTP sites, Gopher servers and Internet mailing lists. InfoSeek can be found at http://www2.infoseek.com. ... **Yahoo! Corp.** of Mountain View, Calif., earlier this month unveiled a better interface to its indexing service and debuted on-line news updates from Reuters NewMedia Inc. The company said its new look eases navigation. Yahoo! can be found at http://www.yahoo.com. ... **NaviSoft Inc.** of Vienna, Va., is offering its WYSIWYG editor for HTML (Hypertext Markup Language), NaviPress, free over the Web until Aug. 20. The program will also be offered on a $99 CD-ROM containing 60-day demonstration versions of NaviServer, the company's Windows NT- and Unix-based Web server. NaviPress, normally $99, can be obtained from http://www.navisoft.com. ... The HTML Web Weaver program will receive a major upgrade through a joint venture between **Best Enterprises** of Potsdam, N.Y., and **Black Star Software Inc.** of Santa Monica, Calif. The new version, called World-Wide Web Weaver for Macintosh, brings a redesigned interface and allows users to build CGIs (Common Gateway Interfaces) to databases and e-mail servers. Version 1.0a1 is available via anonymous FTP from ftp://ftp.potsdam.edu/pub/html_web_weaver. ... **Open Door Networks Inc.** of Ashland, Ore., last week announced a new version of its $30 WYSIWYG editor, WebDoor Publisher. Version 1.1 adds support for several new HTML tags, including background colors and images, colored text, multiple font sizes, centered text, bulleted lists, image maps, and forms. The application can be downloaded from ftp://ftp.opendoor.com/pub/webdoor ... Companies that are used to telling their story through a slide presentation can maintain that metaphor on the Web using WebSlides. The free software system, developed by **Terje Norderhaug,** a media-systems designer in San Diego, Calif., requires users to create a presentation using commands similar to HTML tags, store it in a single text file, then drag it onto a conversion utility that will break it into separate-but-linked HTML files with one page per presentation screen. WebSlides is available at http://www.ifi.uio.no/~terjen/PresML/webslide.html. ... After many delays, **InterCon Systems Corp.** of Herndon. Va., last month shipped its Internet server for the Mac and Power Mac. Priced at $795, InterServer lets users establish Web, FTP and Gopher server (see MacWEEK, March 13, Page 10). A trial version of the server can be found on InterCon's FTP site at ftp://ftp.intercon.com/public. □

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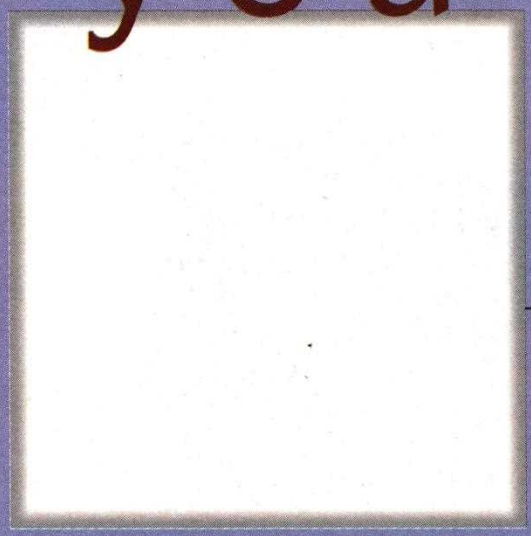

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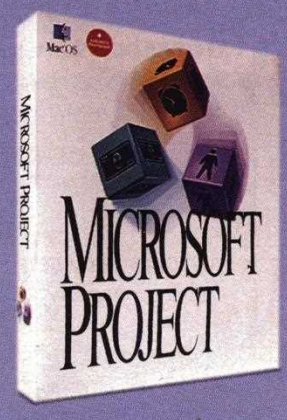


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# Claris adapts to market and internal changes

## Apple tie-in is two-edged sword

*Editor's note: Our profile of Claris Corp. kicks off a monthly feature in Business that assesses the performance of a key Mac developer over the past 12 months. The company is graded based on finances, technology, marketing and customer support.*

**By David Morgenstern**

After trying to shake off Apple's apron strings several years ago, Claris Corp. says it is now walking firmly in step with its corporate parent. But analysts and insiders say the company still has a way to go to define its goals and aspirations.

Apple believes Claris is important to its bottom line. As the computer industry has engaged in a price war over the past few years, profits from software sales have helped buoy increasingly slim margins for Mac hardware systems. With a firm grip on goals such as software usability and customer support, the company is examining its software markets and cross-platform strategy.

Founded in 1987 as an Apple software subsidiary, Claris' plans to go public in 1990 were nixed by Apple, a move that still rankles some longtime managers. The company's goals stress usability for both Mac and Windows platforms. Its popular ClarisWorks integrated application is bundled on entry-level Macs.

Claris experienced a major change in upper management after Apple's latest restructuring in April. The changes reflect the importance of Claris but also some underlying problems.

Former Claris CEO Dan Eilers returned to the Apple fold as head of worldwide marketing and was replaced by Apple veteran Guerrino De Luca. Eilers' promotion signals the importance Apple places on software marketing for its long-term success.

This summer also saw the departure of Larry Slotnick, the company's engineering manager. His departure reportedly caused some grumbling among the coding rank and file.

De Luca said he is not concerned and "many programmers want to work at Claris."

### Finance

De Luca said Claris' sales picture is rosy. He estimated shipments of 4 million units to new customers in fiscal 1995; Windows products will account for a quarter of the total. More than half of the company's users are in the education and home markets.

According to Dataquest Inc. of San Jose, Calif., ClarisWorks, aided largely by being bundled with entry-level Mac systems, holds a 74 percent share of the Mac market vs. 10 percent for Microsoft Works. The situation is almost reversed on the Windows side: ClarisWorks has 7.4 percent, compared with 77 percent for Microsoft Works. In the Mac database market, FileMaker Pro has almost 60 percent; its 8 percent share in the Windows market lags behind Microsoft's Access, at 29 percent, and Borland International Inc.'s Paradox, at 18 percent.

Claris discovered a blessing can also be a curse with its emphasis on bundling products with Macs. Although the company reported record growth in unit shipments, its sales were squeezed by low margins from bundles and price cuts on existing retail products. Claris said it expects its fiscal 1995 sales will be flat at about $160 million.

"It's going to be tough for them in the long term," said Dataquest analyst Bryan Fukuda. "Unfortunately, there's not a whole lot of profitability with bundles."

### Technology

Just a year ago, Claris outlined its future directions: optimization for the Power Mac; improved support for Windows; international versions; new products for mobile

*See Claris, Page 30*

### Company Report Card

CLARIS CORP.

CLARIS®

**B** **FINANCE:** Although unit shipments are up, profits slipped because of extensive bundling and price cuts. Profitability remains good, however.

**B+** **TECHNOLOGY:** Slow to bring some native versions to market; new products are coming from outside the company.

**B** **MARKETING:** Can leverage its large installed base for updates and sales of Claris and Apple software.

**A** **CUSTOMER SERVICE:** Excellent customer support and easy-to-use programs.

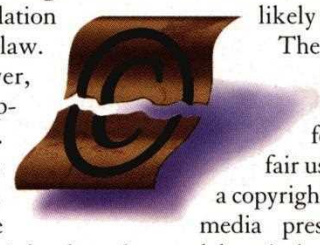
**PROSPECTS:** With a large installed base and bundling as a safety net, Claris won't lose. But to grow, the company needs innovative titles in new market categories.

**NEWS ANALYSIS**

# Copyrights are fair game if it's fair use

**By Marie d'Amico**

With the advent of digital technology, replicating and using copyrighted work has become teen-ager's play. Although widespread, it's also a violation of federal copyright law.



There is, however, an important exception: fair use. Whether companies and individuals can legally copy and use all or part of a copyrighted work is based on the following criteria: whether the material is for commercial or nonprofit use, the nature of the copyrighted work, the amount of the work used, and the effect upon the original work's market. As Kerry Konrad, a senior attorney for Cambridge, Mass.-based Lotus Development Corp., said, "If your use is private, limited, and for the purpose of reference and illustration only, it's likely to be fair."

The American Society of Composers, Authors & Publishers, for example, said it is fair use if a company uses a copyrighted song in a multimedia presentation in-house and doesn't charge admission.

But Jay Monahan, director of Domestic & International Anti-Piracy with Walt Disney Television in Burbank, Calif., said: "Where a valuable intellectual property is involved, such as a

*See Fair use, Page 30*

# Plug into 'fourth-party' market

**By Cate C. Corcoran**

The World-Wide Power Company LLC of Arvada, Colo., in May joined XChange Inc. of San Francisco and the Adobe Plug-In Source of Seattle in the business of distributing add-on software products for major applications, making it clear that the "fourth-party" market for plug-ins and add-ons is making its mark on the larger software market.

Kathleen Tinkel, editor and publisher of MacPre-Press, a DTP newsletter in Westport, Conn., said these companies are an important part of the software market because of the large numbers of very small developers making add-on products. "The developers of extensions don't have any marketing abilities," Tinkel said. "It is usually one or two people working alone."

While all have similar business goals, the three companies have different approaches. XChange, founded in 1989, sells only QuarkXTensions, add-ons to QuarkXPress, Quark Inc.'s page-layout application, and provides consultation to customers as well as developers. The Adobe Plug-In Source is a cooperative that any maker of plug-ins for Adobe Systems Inc.'s applications can join for a fee. Members share profits at year-end.

The newly founded World-Wide Power Company is setting its sights on selling a wide variety of plug-ins for applications from Adobe, Quark, Strata Inc. and others as software developers kits open up.

MacPre-Press' Tinkel pointed out that it is the makers of the base applications that drive — and benefit from — the add-on explosion. "It allows them to sell into markets that they otherwise wouldn't fit," she said. "These smaller developers can customize for vertical markets and live off smaller volume and less profit."

Craig Barnes, president of Extensis Corp., a Portland, Ore., developer of PageMaker plug-ins and QuarkXTensions, said he is looking forward to growth in the market. "We think the add-ons market is very immature," Barnes said. "Only now are a significant number of applications adding an API that is truly useful." □

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Newton

Making information as mobile as you are.

## Claris

*From Page 28*

computing and the Newton; and the integration of technologies such as additional networking protocols, OLE and OpenDoc. It also said it will move its code base to an object-oriented environment.

Although some of the stated goals are clearly long-term, Claris last year was hard pressed to score a hit. The mobile and PDA titles did not make the scene.

Worse yet, a PowerPC-native version of FileMaker, the company's flagship product, is not expected to ship until the fourth quarter — almost a year and a half after the introduction of the Power Macs.

Analysts say Claris needs to find new customers in new markets. Although the company holds onto the business market with FileMaker and ClarisWorks, it has reportedly given up on further development for its word processor, spreadsheet and CAD lines. Fukuda said Claris missed an opportunity to put together a suite including MacWrite Pro, Resolve, Organizer, ClarisImpact and ClarisDraw.

Instead, the company has focused its efforts on an integrated product, ClarisWorks. Claris said the single program offers users an alternative to suites, and its recent market research showed gains against Microsoft Office.

"Claris is not innovative like Intuit [Inc.]; they don't have a culture that rewards risk," said a former marketing employee. "They've lived with their Apple security blanket too long."

### Marketing

Claris said it will mirror much of Apple's new marketing plan, which focuses on the home, small-business, education and entertainment markets. The company will handle distribution of Apple-branded software starting Oct. 1. The addition of Apple's line is expected to boost 1996 software revenues to $225 million.

As it has in the past, Claris will continue to sell to its installed base with upgrades and new products. But some analysts say it may not be easy, since home users may be satisfied with the performance of older versions. And education sites could be reluctant to upgrade because of small software budgets.

Industry insiders also question Claris' marketing and development commitment to its Windows products; they say an anti-Windows bias is evident at Claris.

According to analysts, cross-platform support for a database application such as FileMaker instills confidence in Mac customers. Claris concurred, pointing out its Mac sales increased after the release of Windows versions.

### Customer service

Claris' excellent customer service record has been the counterpart to its vision of software usability. De Luca said Claris will handle support for many Apple-branded software products.

The company said it will also leverage its customer service with product promotions offered on the phone and on electronic services. "Support is a marketing opportunity," De Luca said. □

## Fair use

*From Page 28*

well-known song or animated character, use of even a few bars or a single picture could easily exceed the bounds of fair use."

Users can also request permission from the owner of a copyright, but they should be prepared for rejection even if the use is fair. When Michael Tchao was an Apple product marketing manager, he wanted to use a Star Trek postcard for an Apple party announcement. The company contacted Star Trek's owner, Paramount Pictures, which said Apple needed William Shatner's permission, even though the party was private and free. Shatner said OK.

MCA Inc. refused to license, even for payment, a one-second sample of the Beatles classic song "Get Back" for use in a developer's About Box; MCA gave no reason for the rejection.

Greg Christie, a Newton developer, discovered that some companies, such as General Magic Inc., don't have the Supreme Court justices' sense of humor. He designed a bit-mapped, nonworking screen gag of Magic Cap for Apple's Newton on a "whim" and placed it free on CompuServe. General Magic's lawyers sent him a cease and desist letter and, rather than fight, he pulled the product.

An on-line version of the fair use statute, 17 U.S.C. § 107, is available at http://www.law.cornell.edu/usc/17/overview.html. □

## MacWEEK index
### JULY TOP SELLERS

**The top Macintosh products by dollar volume and category at ComputerWare, a chain of Mac-only resellers in California. The list includes Apple-label products.**

| JUN | JUL | CPUs |
|---|---|---|
| 1 | 1 | Performa 6115CD 8/350 |
| 3 | 2 | Power Mac 9500/120 16/1000/CD |
| 2 | 3 | Power Mac 7100/80 8/700/CD |
| * | 4 | PowerBook 520c 12/320/modem |
| * | 5 | Power Mac 9500/132 16/2000/CD |

| JUN | JUL | Graphics and multimedia |
|---|---|---|
| 1 | 1 | Adobe Photoshop 3.0 |
| 3 | 2 | Fractal Design Poser 1.0 |
| 2 | 3 | Adobe Illustrator 5.5 |
| * | 4 | HSC KPT Vector Effects |
| 4 | 5 | Fractal Design Painter 3.1 |
| 8 | 6 | Strata StudioPro 1.5 |
| 5 | 7 | Macromedia Director 4.0 |
| * | 8 | Diehl Graphsoft MiniCad 5.0 |
| * | 9 | Macromedia FreeHand 5.0 |
| * | 10 | Equilibrium DeBabelizer Toolkit 1.6 |

| JUN | JUL | General applications |
|---|---|---|
| 2 | 1 | Microsoft Office 4.2 |
| 1 | 2 | QuarkXPress 3.3 |
| 3 | 3 | Apple System 7.5 |
| 8 | 4 | ClarisWorks 4.0 |
| 5 | 5 | Claris FileMaker Pro 2.1 |
| 6 | 6 | Microsoft Word 6.0 |
| 9 | 7 | Microsoft Excel 5.0 |
| 4 | 8 | Microsoft Project 4.0 |
| 10 | 9 | Adobe PageMaker 5.0 |
| * | 10 | Intuit QuickBooks 3.0 |

| JUN | JUL | Connectivity |
|---|---|---|
| 1 | 1 | Global Village TelePort/Platinum |
| 2 | 2 | Global Village PowerPort/Mercury |
| 3 | 3 | Global Village TelePort/Gold |
| 4 | 4 | SupraFAXModem 288 |
| 6 | 5 | Asanté FriendlyNet 10BASE T |
| 9 | 6 | Global Village PowerPort/Platinum |
| 5 | 7 | Global Village PowerPort/Gold |
| 7 | 8 | SupraExpress 144 |
| * | 9 | Farallon Ether 10BASE T |
| * | 10 | Global Village Mercury/Duo |

| JUN | JUL | Hardware |
|---|---|---|
| 2 | 1 | Apple Multiple Scan 17" monitor |
| 5 | 2 | Hewlett-Packard LaserJet 4MV |
| 1 | 3 | Apple Multiple Scan 20" monitor |
| * | 4 | Apple Color StyleWriter 2400 |
| 7 | 5 | AppleCD 600e |
| 10 | 6 | Radius Precision Color 17" monitor |
| 3 | 7 | Radius IntelliColor 20" monitor |
| * | 8 | Hewlett-Packard ScanJet 3c |
| * | 9 | Hewlett-Packard LaserJet 4M Plus |
| * | 10 | Visioneer PaperPort scanner |

| JUN | JUL | Utilities |
|---|---|---|
| 1 | 1 | Symantec NUM 3.1 |
| 2 | 2 | Connectix RAM Doubler 1.5 |
| 3 | 3 | Casady & Greene Conflict Catcher 3.0 |
| * | 4 | FWB Hard Disk Toolkit Personal Edition 1.7 |
| 7 | 5 | Aladdin StuffIt Deluxe 3.5 |
| 6 | 6 | Symantec SAM for Mac 4.0 |
| 8 | 7 | Now Utilities 5.0 |
| 4 | 8 | Berkeley Systems After Dark 3.0 |
| 10 | 9 | Datawatch Virex Mac 5.5 |
| 5 | 10 | FWB Hard Disk Toolkit 1.7 |

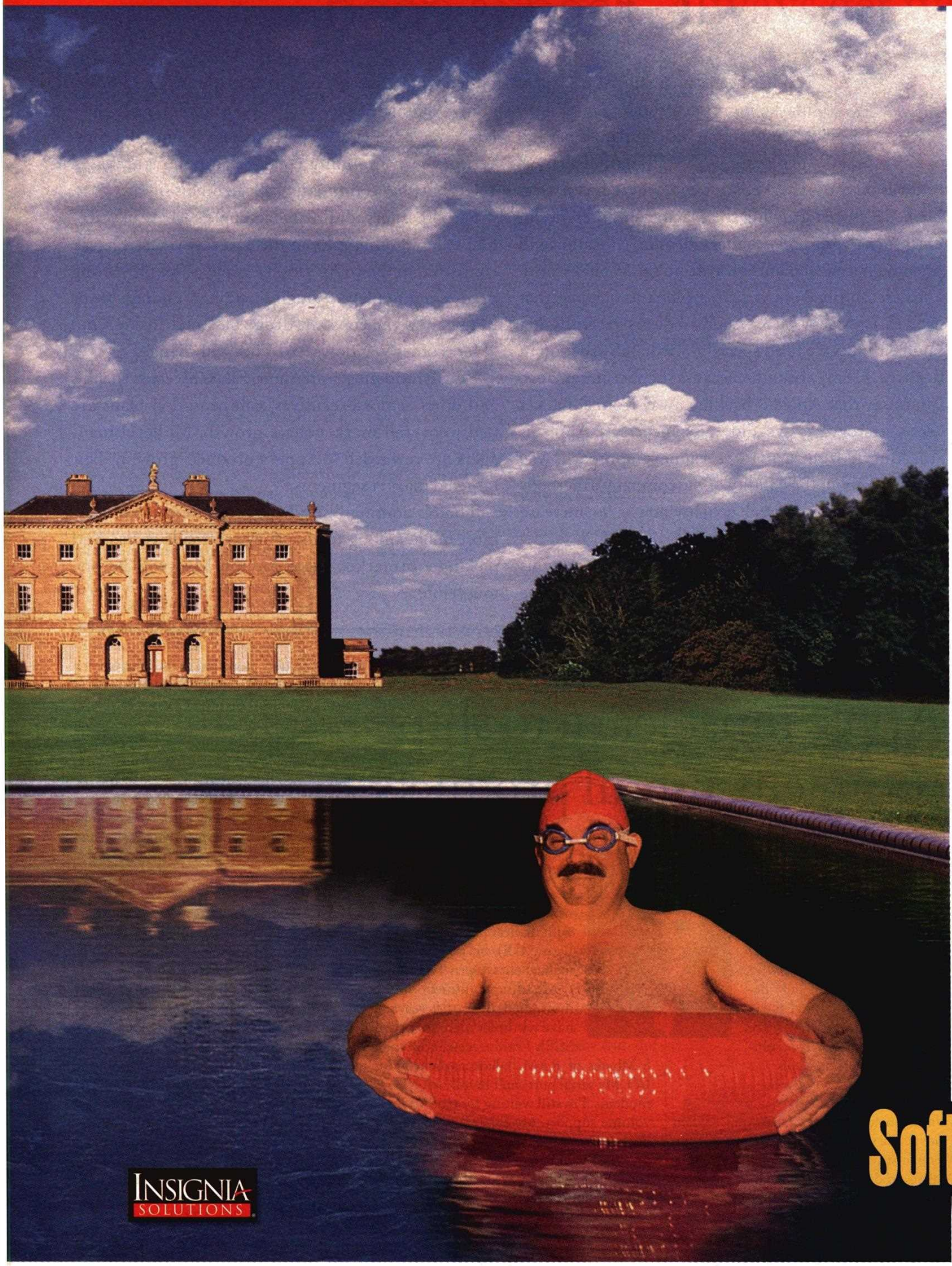
**Didn't make list. Source: ComputerWare.*

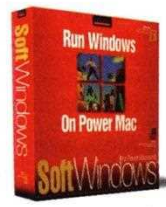
## OFF THE WIRE

- **J.P. Morgan gives nod to Apple stock**
- **Harris to license Newton technology**
- **Quarterly results keep rolling in**

Breaking away from the pessimistic prognostications of its Wall Street brethren, **J.P. Morgan Securities Inc.** in July initiated coverage of Apple stock with a "buy" recommendation. The venerable New York investment bank made the decision based on Apple's Power Mac and Copland technologies and the company's decision to license the Mac OS, according to Daniel Kunstler, senior equity analyst. ... **Harris Corp.** last week said it has signed on to license Newton technology, incorporating the PDA's functionality into hundreds of its machines. The telecommunications giant plans to arm its telephone repair technicians with the handheld devices. ... U.S. Superior Court Judge James Warren in San Francisco last week dismissed a repetitive stress injury suit against **Apple.** User Carolyn Brust claimed the use of an Apple keyboard and mouse caused injuries to her hand. However, the court ruled there was no scientific basis for the suit. ... **Adobe Ventures LP** of Mountain View, Calif., and **Hambrecht & Quist Inc.** of San Francisco have invested $2 million in **Fractal Design Corp.** of Aptos, Calif. ... The quarterly financial results of high-tech companies continued to pour in last week, and the results were mixed. **Iomega Corp.,** a Roy, Utah, storage supplier, said second-quarter sales improved 60 percent to $52.6 million. The company lost $1.9 million in the quarter. ... **Electronics for Imaging Inc.** of San Mateo, Calif., announced second-quarter sales of $44.8 million, a 48 percent jump from $30.2 million in the same quarter last year. Profits for the three-month period rose 84 percent, to $8.3 million from $4.5 million a year ago. ... **Saber Software Corp.** reported second-quarter sales of $5.4 million, an increase of 17 percent from $4.6 million in the same quarter last year. However, profits for the Dallas-based networking vendor plunged 78 percent, to $102,000 from $473,000 last year. ... **SPSS Inc.** of Chicago posted record results for its second quarter. The statistical software company had sales of $15 million, up 25 percent from $12 million in the same three-month period a year ago. Profits were $1.27 million, an increase of 68 percent from $757,000 last year. ... **Blyth Holdings Inc.** took a hit in sales and reported a loss during its first quarter. The client-server software developer, based in Foster City, Calif., said revenues slipped 17 percent, to $3.4 million from $4.1 million. Blyth lost $2.8 million in the quarter, compared with losses of $1.1 million a year ago. ... **CompUSA Inc.** racked up $2.81 billion in fiscal 1995 sales, up 31 percent from $2.14 billion. The Dallas-based superstore chain, which is privately held, does not disclose profits. ... The quarter's biggest loser was **Media Vision Technology Inc.** The troubled Fremont, Calif.-based company not only lost $14.3 million on sales of $16.1 million in its second quarter, it notified about 100 employees in retail operations that they may be laid off. □

*Sure he hears a different drummer. But make no mistake, he knows when to go with the flow. His computer? Power Mac. His software? New SoftWindows 2.0. Now he really has it all. He can run every Macintosh, Windows, and DOS application under the sun. Yes, he's definitely out there. But to us, he's 100% compatible.*




Not all of your network users may be this fat and happy. But they'll definitely be happy with SoftWindows 2.0 for Power Macintosh, the software that brings 100% Windows and DOS compatibility to Power Macs. Now, all the Power Macs on your network can run anything and everything your PCs run. Without a drop of troubled water. Just install SoftWindows 2.0, and get your network users working together. Now you can standardize everyone on suites like Microsoft Office, and software such as CorelDRAW! and WordPerfect 6.1. What's more, SoftWindows 2.0 is totally optimized for networks, ensuring easy access to your Mac printers, modems and other peripherals. So, for the easy, affordable, 100% guaranteed Windows compatible solution for your network, get new SoftWindows 2.0 for Power Macintosh. It's a real lifesaver.

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BPA INTERNATIONAL



# Greed is good

Much has been said about Apple's new marketing strategy under Dan Eilers. He insists that his company's path to increasing its overall market share is to focus on those market segments where it is strong. He believes that growing the Macintosh's presence in areas such as pre-press, digital video and education will be enough to steal points away from the Wintel world.

Eilers outlined some of his plans to achieve that growth to MacWEEK's senior editors recently. He said he thinks we need special remedial instruction in this area. He may be right, because skepticism remains. But to say that Apple is backing away from a market share strategy, as we did, was incorrect. Apple is attacking it from a market segment approach. We can argue about the validity of the company's methods but not about its stated goal, which is to increase market share.

A few things convinced us that Eilers is serious about market share expansion. First, he offered specific targets where he saw opportunity for Apple. For example, despite Apple's envious position in the higher-education market, the company lags behind the competition in community college computer purchases. Eilers now has community colleges in his sights.

Second, Eilers admitted that Apple's "share of voice" had fallen dramatically in the past few years. That is, compared to the competition, Apple is not presenting its message widely enough and often enough to be heard amid the constant drone of "Intel Inside" and "Here comes Windows 95." That will change.

Finally, and most important, Eilers revealed that his and other senior executives' compensation plans are tied to overall market share growth. Midlevel managers are rewarded if Apple's products grow in their targeted market segments.

There's nothing like a little greed to spur even the most noble among us to achieve difficult goals. And picking up market share for the Mac will be one tough job. □

**GUEST EDITORIAL** WALTER SCHILD

# Apple must learn to ship complete, useful products

I welcome Apple's new outlook on life: to focus on its existing customer base. The key for it to reach that goal is to understand its customers' needs.

Apple must get inside our organizations and see how we operate so it can not only deliver products we need today but understand where we're headed and co-develop solutions with us for the future.

### Clueless in Cupertino

Unfortunately, Apple is, like the current movie title says, "Clueless." As long as I can remember, I've been dealing with half-baked products. Clearly, the hardware and software folks haven't been communicating with us or each other. For a company that's built largely around a single campus, Apple's products seem to be developed by different companies on different continents.

The Mac has been a key ingredient to the success of my company for many years. But it has been the most frustrating part of that success. Year after year, Apple delivers a promising new generation of products with useless features (QuickDraw GX) or poorly implemented ones (Open Transport).

My disappointments have multiplied over the years. I have no direct memory access SCSI. I can't access more than 8 Mbytes of RAM. I lack asynchronous I/O. My serial port can't handle 14.4-Kbps modems. I'm still waiting for true 4-Gbyte volume support. My Ethernet cards can't deal with multiple Internet Protocol addresses. I could go on. And I will, starting with the new Power Mac 9500.

The 9500/132 model doesn't come with a video card, and none is available. What good is a computer sitting in a box for months? For $5,400, I expected to turn it on and look at something! Silly me. (I'm told the Radius card I ordered in mid-June won't arrive until September.)

But you're more likely to be struck by lightning than to find a 132, so let's look at the 120 model. You do get a video card with the 120, but don't expect 24-bit color on big screens. (What does Apple think we're doing with 9500s? Word processing?) You have to buy a video RAM upgrade module, and the only supplier is ATI Technologies Inc., the manufacturer of the PCI card. And don't be surprised to find component shortages. I had to wait six weeks for one VRAM module.

### Connectivity collision

I have a fast bus now, so I want a Fast Ethernet solution. Asanté Technologies Inc. and Farallon Computing Inc. announced 100-Mbps cards, but there is no solution to connect my 10BASE T devices with my Fast Ethernet devices. How am I supposed to print? What about linking my older Macs? Even if I only wanted to share files between 9500s, Open Transport isn't optimized for Fast Ethernet. The speed increase with the current Open Transport is negligible.

Apple will never maintain our business if it doesn't understand where we're headed. Why does Apple have only an Advanced Technology Group? Why not publishing, education and new media technology groups? It's clear that ATG by itself has not developed the technology we can use. □

*Walter Schild is director of R&D at Alan Lithograph Inc. of Los Angeles. He is at wschild@aol.com. Henry Norr will return next week.*

# LETTERS

## Quark patches things up

Contrary to the Mac the Knife item (MacWEEK, July 31, Page 78), both Apple and Quark have responded quickly to address their customer concerns regarding the use of QuarkXPress with Power Macintosh 9500s.

Apple made an undocumented change to the network API when Open Transport was first released. This resulted in QuarkXPress hanging on start-up if, and only if, certain network XTensions were loaded.

Apple released Open Transport 1.0.1, solving the problem for most of our customers. However, those customers using LocalTalk or AppleTalk as their network protocol may still experience difficulties under certain rare circumstances. It is important to note that we are aware of fewer than a dozen customers who have said they have encountered problems stemming from Open Transport and QuarkXPress. We are helping these customers by sending them a patch to QuarkXPress.

Customers may acquire the patch from Quark via the following on-line services:

- **America Online:** keyword Quark. It is in the Quark Libraries and QuarkXTensions folders.
- **AppleLink:** Software Sampler: 3rd Party Demos/Updates: Software Updates: Companies K-R: Quark: Macintosh Software Library: XTensions.
- **CompuServe:** Go Quark. The patch is in the library for XTensions: Mac-PMac.

Quark will also post Open Transport 1.0.1 for those customers experiencing problems with Open Transport 1.0. Quark customers without access to on-line services may call Quark's customer service number at (800) 676-4575 or (303) 344-3491 to obtain the software.

Apple is currently developing Open Transport 1.0.5, which will offer a total solution to 9500 customers. Until 1.0.5 is available, we will continue to provide the patch to customers who request it.

There is no truth at all in your implications that neither Quark nor Apple responded to this issue. Quark cares a lot about its customers, and we continue to take all the steps necessary to make sure they get the support and attention they deserve.

*Tim Gill*
*Chairman*
*Quark Inc.*
*Denver*

## Hey, Apple, what about us?

Having been a longtime user of the Macintosh platform, I often find myself wondering if Apple cares about the general business market. I'm not talking about the high-end graphics market, or the educational market or the "convention goers" market.

The one market Apple has yet to seriously pursue, and must if it wishes to remain competitive with manufacturers of Intel-standard PCs, is the home users and small-to-mid-size businesses.

Apple's efforts over the years to give users cross-platform compatibility was well-meant but woefully inadequate.

Apple will never attract a significant share of the software and hardware market unless it markets itself to users and potential users who, for the most part, think of computers as little more than glorified televisions.

If Apple doesn't grip the market and take a leadership position, it might just as well close its doors and go home.

By the way, Mac clone manufacturers should market the platform with all speed and thorough doggedness because all of your businesses are on the line, too.

*Mike Clark*
*Cape Coral, Fla.*

## Open Transport solution

In regard to your recent problem assessments with Open Transport (MacWEEK, July 10, Page 34), I wanted to point out a related problem I've had.

Using a pre-release copy of SoftWindows 2.0, I could not get networking to function under the emulated DOS/Windows. Insignia's excellent technical support gave me the solution:

1. The 9500/120 that I was using shipped with Open Transport 1.0.5. Version 1.0.6 is the newest one, and fixes a number of bugs.

2. The 9500 shipped without the "Ethernet Shim," which is the backward-compatibility layer of Open Transport.

Any user reporting the problem to Apple ((800) 767-2775) can get the updated version at no charge.

Newer 9500s and the other PCI-based Macs (7200, 7500, 8500) will come with the new version installed.

*Josh Linder*
*President*
*Skylink Limited Inc.*
*Bedminster, N.J.*

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**THE MAC MANAGER** DON CRABB

# Mac developers will not always get what they want

Computer people have long memories. Especially Macintosh computer people. Double that for Macintosh developers who feel they've been screwed by Apple over the years despite their Macintosh loyalty.

The past couple of weeks I've been taking some heat from two such longtime Mac developers, Dan Magorian, a Mac manager at the University of Maryland, and Wayne Bostow, the Houston developer of ElectronicHangul, a Korean software package.

Both Dan and Wayne have nailed me for believing too much of Apple's rhetoric, for thinking that the Apple Enterprise Awards were actually a good thing, for not wailing more at Apple's management problems, and for not taking Apple to the woodshed for its continued disregard for its customers and developers, among other transgressions.

If Dan and Wayne were right, I'd be duly chastised. But they're completely wrong, and here's why.

### The way Apple really works

Look, here's a news flash. Apple is not the Evil Empire. Nor is it the Keystone Kops, a snake-oil seller or The Music Man. And it never was any of the precious things we made it into in the mid-1980s. No company was ever as good and high-minded as Apple was portrayed in the early Mac days, and no company is as stupid, slimy or out to lunch as Dan or Wayne think Apple is.

You can rail that Apple has too many bean counters, too many MBA suits, but that misses the point, too. That high ground is a moving target that no other computer company has much of a fix on, either. Who thinks Dell Computer Corp., IBM Corp. or Compaq Computer Corp. takes better care of their customers than Apple? You should read the angry e-mail I get about them.

Keep in mind that Apple's marketing and technical/product divisions were reorganized in May. Senior Vice President Dan Eilers and R&D honcho David Nagel are making changes to their organizations that are improving Apple's response time and the quality of that support. Call technical support right now, and tell me if you don't get better service than six months ago.

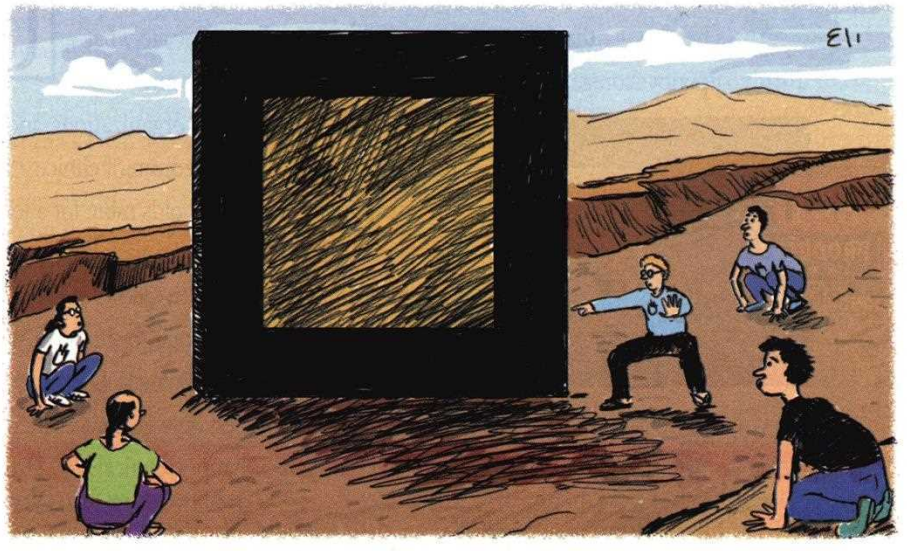
Apple is putting together a more unified and common-sense marketing and advertising plan, too — one that is taking on its direct competitors where it counts. You don't think those anti-Windows 95 and anti-HP color printer ads are effective? Think again. The marketers I've talked with from Microsoft Corp. and Hewlett-Packard Co. are astounded that Apple turned around its weak ad campaigns so quickly.

### All things to all people?

But these improvements don't mean Apple can be all things to all people. It cannot. The truth, Dan and Wayne, is that Apple can't always give you what you want, when you want it. And if it can't, then you have to consider moving to the competition. Hang in there a while and see what you think.

Apple certainly needs to continue making great strides in listening to its current customer base and in selling the right products at the right prices to it. But it is making many of the right moves to make that happen. During this latest transition, however, Apple will also likely leave some current customers behind. Maybe Dan and Wayne. □

*Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.*



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**PLUG-IN REVIEWS**

**Another Adobe Photoshop plug-in, Andromeda Software Inc.'s Series 3 Screens Filter 1.2, will be reviewed next week.**

# Nikon Scantouch reflects well on gray, color images

**By Ben Long**

**The AX-1200 flatbed scanner boasts strong performance, software and interface.**

Business users who need to scan mostly gray-scale images but have an occasional need for color scans should check out Nikon Inc.'s AX-1200 Scantouch flatbed, a strong addition to the company's line of scanners. It also supports transparency scanning through the optional AT-45 Transparency Unit, which costs $770.

Included with the $1,720 Scantouch is Nikon Scan 5.1, a versatile Adobe Photoshop-compatible Acquire plug-in that provides access to all of the scanner's capabilities. The scanner is also bundled with Light Source Computing Inc.'s Ofoto scanning software and Caere Corp.'s OmniPage Direct OCR software. (However, high-volume OCR users should be aware that there is no automatic document feeder option.)

The Scantouch is a 30-bit scanner, which means it scans 10 bits per color (red, green and blue). It has an optical resolution of 565 by 1,200 dpi and can interpolate up to 1,200 by 1,200 dpi through built-in hardware interpolation.

Measuring roughly 15 by 24 by 7 inches, the Scantouch is a fairly normal-sized flatbed scanner. It ships with a power cord and a 25-to-50-pin SCSI cable as well as a SCSI terminator.

Installing the scanner requires little more than connecting the cable and scanner to your existing SCSI chain. You must remove a locking screw from the back of the scanner before it can be used, but Nikon has thoughtfully provided another hole in back to store it in, so there are no small parts to keep track of or, in our case, lose.

If you plan on scanning transparencies, you'll need to replace the scanner's regular cover with the AT-45 Transparency Unit. (You can still scan reflective art with the AT-45 installed.) The transparency unit, which is somewhat larger than the scanner cover, contains a small recessed area with a glass covering that serves as the imaging area for transparencies.

Installing this unit is also simple: You remove two large screws (easily unscrewed with a coin) from the top of the scanner, then lift off the cover. You then slide the transparency unit onto a mounting guide and attach it to the scanner with the two screws you previously removed. A small DB-9 plug connects the transparency unit to the back of the scanner.

ED CALDWELL

**Nikon's AX-1200 Scantouch flatbed has an optical resolution of 565 by 1,200 dpi and can scan up to 1,200 by 1,200 dpi through hardware interpolation.**

### Nikon Scan

Unlike some scanners, the Scantouch does not require the use of any drivers or extensions. The only software needed is Nikon Scan. Offering a full range of features and controls, Nikon Scan is a surprisingly comfortable environment in which to work. Unlike most plug-ins, its dialog box is resizable, allowing you to see very large previews (provided you have a very large monitor).

A Preview button creates a quick scan of the entire scanner platen. You can then use the Crop tool to select the area to be scanned. The Zoom tool is a very nice addition: It rescans the selected area and displays it as large as possible. This gives you quick previews that are quite easy to see and provide a good deal of detail.

This detail is all the more useful given the plug-in's full range of image-processing controls. In addition to specifying size and resolution, the software lets you activate the scanner's built-in sharpening and

*See Scantouch, Page 38*

**score card**

**AX-1200 Scantouch**

**Nikon Inc.**
**List price: $1,720***
**Overall value** ◆◆◆◆

This 30-bit flatbed scanner is a very good choice for business users who need to create gray-scale and color scans. While its color features won't satisfy high-end users, they're more than adequate for the occasional color user. An optional transparency attachment, which can scan from sources as large as 4 by 5 inches, creates results better than some slide scanners we've seen. Nikon's full-featured, easy-to-use Acquire plug-in is a standout among the crowd of lame scanning plug-ins we've used. Capable of producing high-quality images with little tweaking or adjustments on the part of the user, the Scantouch makes short work of getting good scans.

**Performance** ◆◆◆◆
**Features** ◆◆◆◆
**Configuration** ◆◆◆◆◆
**Compatibility** ◆◆◆◆◆
**Documentation/support** ◆◆◆◆

**Bundled with Light Source Computing Inc.'s Ofoto and Caere Corp.'s OmniPage Direct. Optional AT-45 Transparency Unit, $770.*

**Key** ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

# Optima makes CD recording a simple desktop maneuver

**By Sean Wagstaff**

**Optima's CD-R Access software lets you copy data using the Finder just like a hard disk.**

Optima Technology Corp.'s CD-R Access software is intended to make mastering CD-ROMs as easy as using the Finder. The software is bundled as a $1,850 package with Optima's DisKovery 650-CDR dual-speed CD-Recordable drive.

You'll need a Mac with at least 768 Kbytes of free RAM and 5 Mbytes or more of free disk space to use the CD-R Access software. The drive itself has dual SCSI ports, a volume control and audio jacks and uses a standard CD caddy.

### Look, ma, no interface

Most CD-R software packages, such as Astarte GmbH's Toast (see MacWEEK, June 26, Page 38), are based on the concept of mastering an entire disc in one or more sessions. This is fine if you know what you want to put on the disc when you sit down to make it but inconvenient if you want to copy files a few at a time, as most people do when they use the Finder. Another limitation of CD-R mastering software is that you can't move, rename or delete files once they're on the disc.

Although Optima's double-speed drive uses essentially the same technology as other CD-R devices, the company has cleverly sidestepped some of these limitations with its software. To begin recording a CD, you just put a blank CD-R disc in the caddy and insert it in the drive — you're automatically prompted to initialize the disc, just as with a new floppy.

*See Optima, next page*

## Optima

*From previous page*

You can then copy files to the disc, drag files to the Trash and move files between folders simply by using the Finder as you would with any hard disk.

In theory, at least, using the CD-R Access software is this transparent, which is one of the biggest advantages of the system. A company could conceivably issue the CD-R Access software to employees, who could then back up their data to a CD-R drive without any training.

### Final exam

CD-R Access does, however, have some confusing elements, most notably the need to "finalize" both directories and discs and the lack of a clear explanation of why you need to do this and when.

To perform its Finder-based copying, CD-R Access commandeers an 8-Mbyte chunk of hard drive space for storing its directory and caching files waiting to be written to a disc. Every time you make a change to the contents of a disc, the changes are recorded by the directory on your hard drive.

When you eject a disc, you are asked if you would like to finalize the directory. This copies it onto the last track of the disc, which is required to make it readable by CD-ROM devices other than Optima's own. Each copy of the directory can take up to 20 Mbytes of space, so you'll want to minimize the number of times you finalize the disc's directory.

Finalizing the disc itself, meanwhile, is actually final. It not only copies the latest version of the directory onto the disc but locks the disc to prevent further changes.

We should also note that, although you can add data to a disc at any time prior to finalizing, as with other CD-R devices, you cannot modify files on the disc because CD tracks are written linearly and sequentially. When you "delete" a file, you're deleting it from the directory only, not from the actual disc, so it still occupies its space on the CD. Anything you put on the disc is there permanently.

> Optima's drive and software bundle is a good implementation of a good idea: to be able to mount a CD on the desktop and copy data to it just like a hard disk.

### Performance

Optima's most impressive achievement is that it has managed to minimize problems with data underruns common to CD-R systems. Essentially, with other CD-R systems, an uninterrupted flow of data has to be streamed off of the hard disk onto the disc; otherwise the disc will be corrupted. This requires that you use a fairly fast hard disk that must be defragmented before creating a CD.

But with the Optima system, we were able to copy a huge folder of tiny files from a fragmented and relatively slow hard disk without difficulty. We could also copy files in folders, one at a time and via file sharing over an AppleTalk network.

A significant problem with the system, however, is its overall speed. Because the software needs to read the directory from the last track of the CD every time you mount a disc, you'll sometimes have to wait several minutes while it mounts.

Similarly, copying files to a disc is extremely slow compared with normal Finder operations with a hard disk, and it's also much slower, in general, than writing to another double-speed CD-R device using standard mastering software. While many users will be delighted to have an easy-to-use CD-R system, they'll be less than enthusiastic about waiting 10 minutes while a handful of files are being copied to the disc.

### Compatibility

To use CD-R Access CDs in standard CD-ROM drives, you need to install the Reader version of the CD-R Access control panel on your Mac. (This software ships with the system and is also available free from online services.)

The Reader operates above the CD-ROM drive's existing driver and allows you to read CD-R Access' unusual disc format. We tested CD-R Access CD-ROMs with a variety of drives and found that they worked normally on every one but Apple's new AppleCD 600e Quad-Speed drive; Optima said a fix is in the works.

Optima's CD-R solution works very well for in-house needs, particularly where users will simply want to drag a group of files to the disc for an overnight backup. On the other hand, the need to distribute CD-R Access to end users will be the largest impediment to the system's use for out-of-house projects. While the Reader is widely available free, and end users could probably be trusted to install it correctly, it's not compatible with the read-ahead caching used by some CD-ROM driver software, such as FWB Inc.'s CD-ROM ToolKit. Other users will have problems with the 8-Mbyte contiguous disk space requirement. These problems are a potential nightmare for distributing CD-R Access discs to a wide group of unsupported users.

Although you could use the DisKovery 650CDR drive with other CD-R mastering software, the choices are limited. Incat Systems Software Inc.'s Easy CD-Pro works with the drive (although it consistently crashed on our Quadra 950 with an Apple PowerPC upgrade and System 7.5.1), but that software has only fair support for creating standard Macintosh Hierarchical File System volumes. Astarte's Toast is a popular bundle choice among CD-R drive vendors, but it currently doesn't support the Optima drive.

### Documentation and support

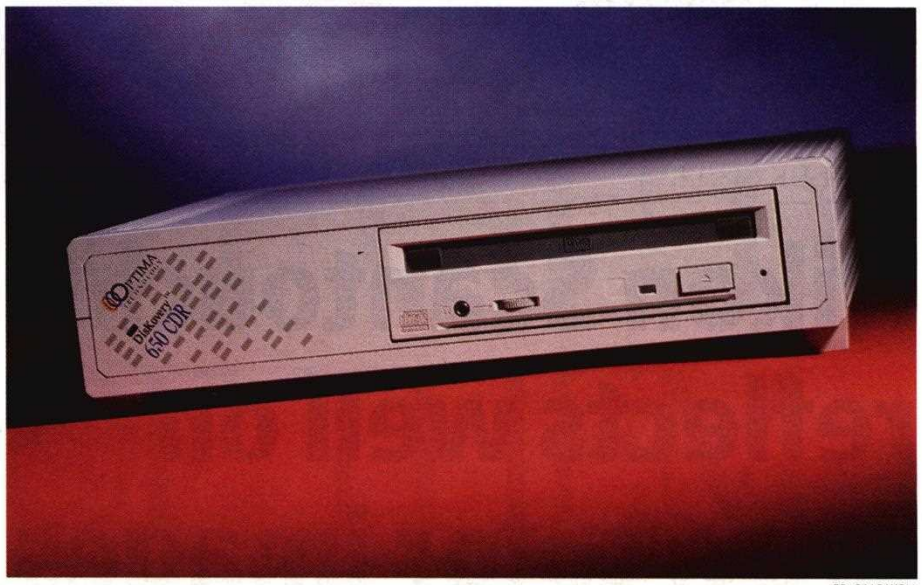
For a drive-software package whose target market is people looking for a simplified approach to CD-R, the CD-R Access documentation is obtuse and filled with technical jargon. This is too bad because users would benefit from simple and clear explanations. Many users will be inclined to throw away the manual and call technical support the minute they have a problem.

### Conclusions

Optima's DisKovery 650CDR drive and CD-R Access software bundle is a good implementation of a good idea: to be able to mount a CD on the desktop and copy data to it just like a hard disk. It's easy to use in general, but many users will be mystified by some of the system's requirements — such as the need to finalize directories and discs — that are not well-explained in the documentation.

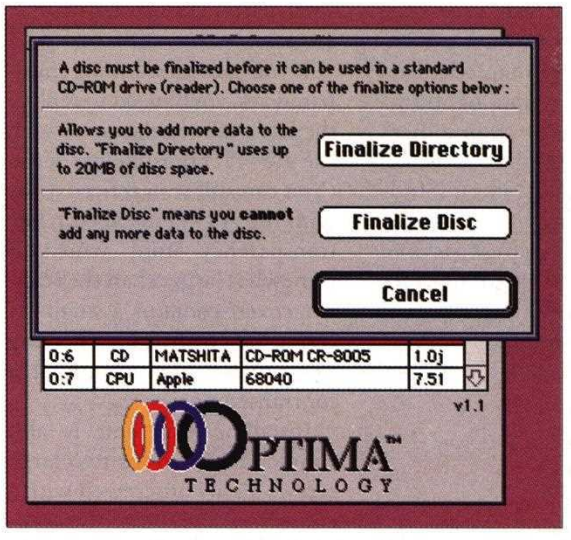
Also, discs created with the device are not well-suited for wide distribution because users need to install special software to read them on drives other than Optima's. But overall, this is certainly a step in the right direction. It should find a happy home at sites looking for a simplified approach to CD-R and reliable archival storage media that can be mounted on the desktop.

Optima Technology Corp. of Irvine, Calif., can be reached at (714) 476-0515; fax (714) 476-0613. □




ED CALDWELL

**Optima's DisKovery 650CDR drive is a dual-speed CD recorder that lets you create CD-ROMs for data distribution, backup and archival purposes. If you use it with the company's bundled CD-R Access software, you can copy files to mounted CDs simply by using the Finder.**


A disc must be finalized before it can be used in a standard CD-ROM drive (reader). Choose one of the finalize options below:
Allows you to add more data to the disc. "Finalize Directory" uses up to 20MB of disc space.
Finalize Directory
"Finalize Disc" means you cannot add any more data to the disc.
Finalize Disc
Cancel
0:6 CD MATSHITA CD-ROM CR-8005 1.0j
0:7 CPU Apple 68040 7.51
v1.1
OPTIMA™
TECHNOLOGY

**After you copy files to a CD with Optima's CD-R Access and eject the CD from your Mac, you are prompted to finalize the disc, which is necessary before you can play it in a standard CD-ROM drive. You can finalize the disc's directory, which allows you to add data to the disc at a later time, or you can finalize the disc itself, which permanently locks it.**

### score card

**DisKovery 650CDR/CD-R Access 1.1**

**Optima Technology Corp.**
**List price: $1,850**
**Overall value ♦♦♦**

Optima's DisKovery 650CDR drive with CD-R Access software will be a welcome relief for users who need a simplified approach to mastering CD-ROMs. It allows you to mount a recordable CD on your desktop and use it, with some restrictions, like a hard disk. While its performance is acceptable, its ease of use falls a little short of expectations — a problem that could be fixed with clearer documentation. To use CDs created by this system in drives other than Optima's, users must have the CD-R Access control panel installed in their systems, making it somewhat less practical for those creating CDs for wide distribution or who need to archive well-defined sets of data. However, for in-house use, Optima's solution is a good value that makes CD-R much more accessible for mainstream users.

**Performance ♦♦♦**
**Features ♦♦♦**
**Configuration ♦♦♦♦**
**Compatibility ♦♦♦**
**Documentation/support ♦♦**

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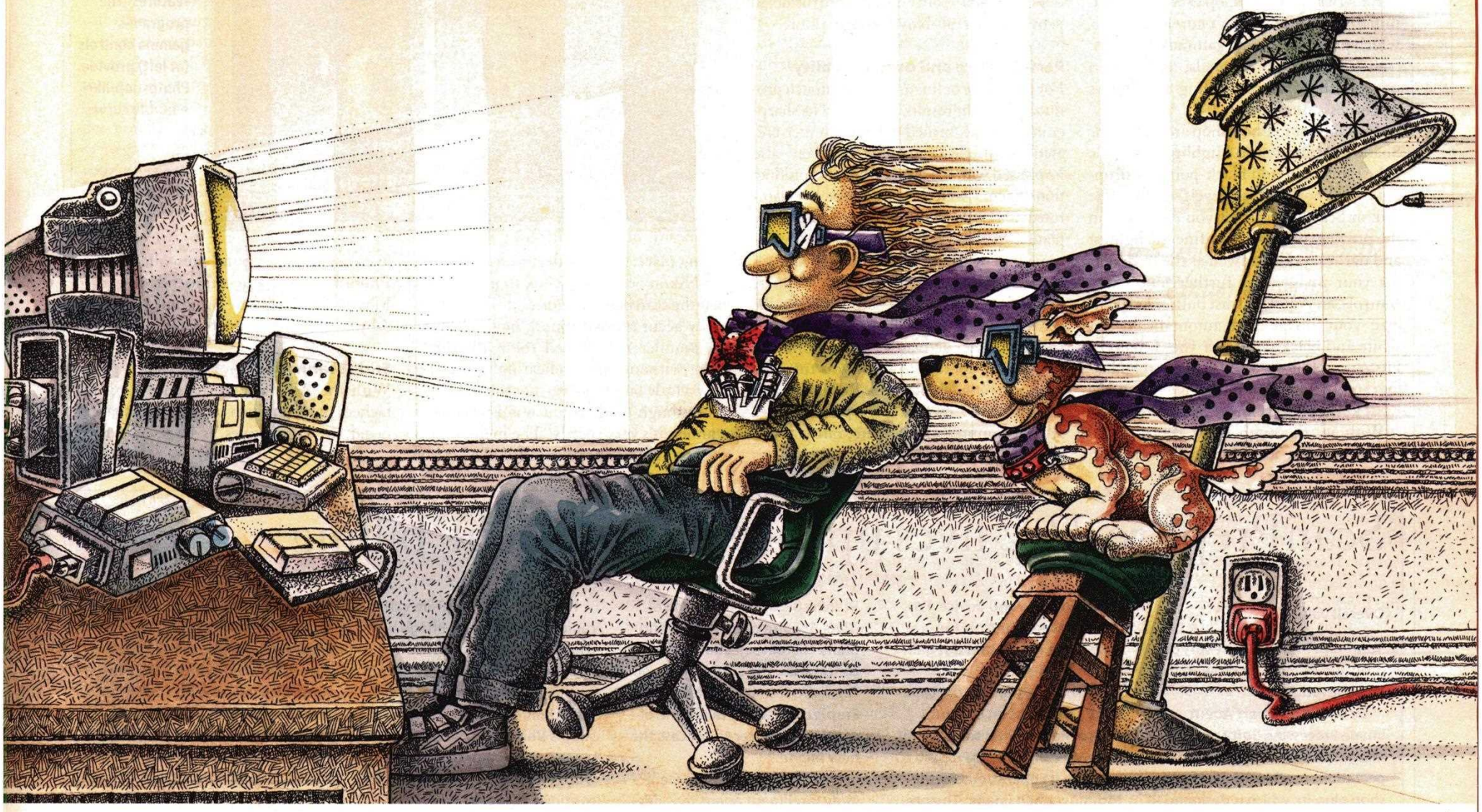

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## Scantouch

*From Page 35*

moiré-removal features. Depending on how much RAM you have, these features might work faster than performing the same functions in Photoshop.

Experienced Photoshop users will be familiar with Nikon Scan's curves controls, which provide separate gamma curve controls for the RGB channels, as well as a master curve for controlling an image's brightness and contrast.

Also similar to Photoshop are automatic Shadow, Midtone and Highlight controls. Like the white- and black-point eyedroppers in Photoshop's Levels dialog, the Nikon Scan controls let you click within the preview window to define the lightest and darkest points as well as the midpoint for your image. For further automated controls, an AutoContrast button will analyze your image and automatically set white and black points for you. Finally, a Histogram button will display a small histogram window, making it easy to see what key type your image is.

With its thorough color controls, resizable window and excellent previewing features, Nikon Scan gives you the control to get a really good image straight from the scanner. However, you'll probably still want to go over your image in Photoshop. Not everyone is comfortable adjusting color through a curves interface, and the plug-in doesn't let you zoom and pan with the detail provided by a full-blown image editor.

### Performance and output quality

For gray-scale or line art, the Scantouch produces excellent results. Even with its sharpening features turned off, the scanner created sharp, clean images. We were also impressed with the scanner's color reproduction. Colors were accurate, not oversaturated, and were consistent across the entire platen. Although high-end users accustomed to working with expensive drum scanners and high-resolution slide scanners may find the Scantouch's output lacking, the occasional color user will be quite satisfied.

The scanner activates a self-calibration/preheating operation when you turn the unit on or switch between Reflective and Transparency modes. This process takes several minutes to complete, but you can continue to scan while the calibration is taking place. A small alert icon appears in the Nikon Scan dialog box to inform you that the scan being performed is not necessarily accurate. We found, however, that the scanner reproduced color accurately even without the preheating, suffering only a little bit in the warmer tones.

**In addition to its comprehensive controls, Nikon Scan includes excellent preview features. The program's gamma controls (at left) provide Photoshop-like editable curves.**

Although the Scantouch is a three-pass scanner, it's very speedy. The main limitation on the scanner's speed is RAM, but even with only 18 Mbytes allocated to Photoshop (Nikon recommends at least 16 Mbytes of RAM), the program scanned a 3-by-5-inch image at 400 dpi in 50 seconds.

### Slide scanning

With the AT-45 Transparency Unit attached, the Scantouch can scan transparent negatives or positives as large as 4 by 5

*See Scantouch, next page*

# ScanPrepPro 2.0.2 lives up to its 'smart agent' billing

Overall value ♦♦♦♦♦

ScanPrepPro 2.0.2 is the sort of program that has to be seen to be believed.

By billing it "Smart Agent Image Processing Software," ImageXpress Inc. creates high expectations for this Adobe Photoshop plug-in, which is designed to get the best results possible from your desktop scanner. Whether or not it actually achieves the best possible results, ScanPrepPro does yield scans that might make you think twice about your old, "obsolete" scanner.

The $695 ScanPrepPro 2 has added a number of new scanner profiles, including Nikon Inc.'s AX-1200 Scantouch (see review, Page 35), to its list. Version 2 also gives you more control over the automatic process than Version 1.2.6 (see MacWEEK, Oct. 31, 1994, Page 40).

### The Pro-cess

When invoked from Photoshop's Acquire menu, ScanPrepPro presents you with a dialog that lets you define the source of your image and how it will ultimately be printed. You can select scanner profiles from a pop-up menu; if your scanner is not on the list, a configuration dialog lets you enter specifics about it.

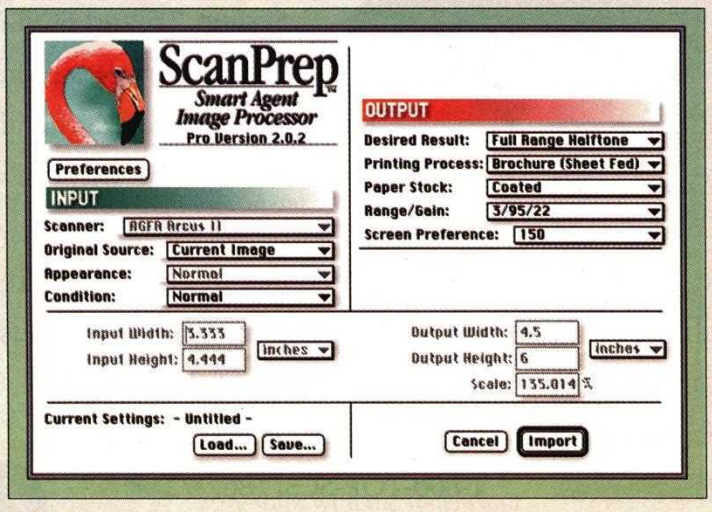
In addition to selecting a scanner and input size, ScanPrepPro also asks you to include an output size and device. For serious users, controls for preferred line screen and dot gain are also included.

New to Version 2 is the capability to process an existing image. Rather than select a scanner, you can tell ScanPrepPro to perform its operations on the top-most open image. The program will then analyze the image to determine its size and resolution, automatically plugging those figures into the ScanPrepPro window.

Once you've set all your options, click the OK button and watch ScanPrepPro go to work. If you've selected a scanner, ScanPrepPro will take control of its Acquire plug-in, entering many custom selections and configuring the scanner for you. Once the scan is complete, ScanPrepPro can again take control of your computer to process the new image.

ScanPrepPro is truly a seemingly intelligent agent that performs many complex functions on your image, such as sharpening operations, adjusting tonal quality and selecting screens in your printer dialog.

It doesn't perform any hue or color adjustments, as those are not algorithmic functions but more a matter of taste.




*ImageXpress' ScanPrepPro 2.0.2 has the capability to process saved images, letting you work on previously scanned images or Photo CDs. After selecting Current Image from the Original Source pop-up, the software will automatically import size information into its dialog box.*

However, the program can radically improve an image by changing its levels to ensure the highest tonal quality. Version 2 now includes the option of having ScanPrepPro open Photoshop's Variations dialog to let you perform color corrections. Once you finish, the program will continue its work.

### Control freaks

While ScanPrepPro produces startling results out of the box, there are always those users who want to make adjustments to the program's functions, and ImageXpress has listened to their requests. New user-selectable halftones let you choose between the usual full-range halftone or a drop-out halftone, which forces a particular color to drop out, making for easy background removals.

The program's FineLine/CopyDot feature does an amazing job of scanning halftoned images and very fine line art such as steel-etched engravings. But rather than simply descreening a halftone, the CopyDot feature actually re-creates the halftone in the computer, as if you were rephotographing it. With 600- and 1,200-dpi options, the FineLine/CopyDot feature provides tone control for fine-tuning the scans.

Many new features improve ScanPrepPro's capability to manage the tonal curves of your image. In addition to letting you create custom dot-gain control curves for your printer, the program also includes an automatic level control that uses a proprietary curve adjustment algorithm to improve a picture's contrast and color saturation.

Finally, the program now includes support for three- and four-color dye-sublimation printers, improved film recorder support, and the capability to prepare images for computer screens.

### Conclusions

Simply put, ScanPrepPro 2 is an essential application if you own a scanner. Its documentation alone will probably teach you things about scanning that you didn't know before, but having a program intelligently perform these operations for you is even better.

Upgrades from previous versions of ScanPrepPro are free if purchased within the past six months, $45 if bought within the past year, $95 otherwise.

A stripped-down version of ScanPrepPro, which lacks the CopyDot features, dye-sublimation printer support and the capability to process previously saved images, is $395.

ImageXpress Inc. of Lawrenceville, Ga., is at (404) 564-9924; fax (404) 564-1632; imagexpress@applelink.apple.com — By Ben Long

## Scantouch

*From previous page*

inches. Nikon supplies you with several black cardboard templates, suitable for slides from 35mm to 4 by 5 inches. Placing a template in the middle of the platen indicates the imaging portion of the scanner.

Our transparency scans were surprisingly high-quality. Nikon recommends not using the AT-45 for any slide that will be enlarged more than 200 percent, but we found scanning a positive or negative at a high resolution and then resizing the image still produced good results. The colors were saturated and didn't have the hollow, washed-out look that transparency scanners often produce. However, Nikon's suggestion seems true for 35mm slides: Enlarging them much more than 200 percent produced somewhat washed-out color.

> The speedy and sharp Scantouch is a fine scanner for performing reliable OCR work and high-quality gray-scale scans.

To scan reflective art with the AT-45, you must use the included Reflection Document Holder. Similar to the transparency template, the document holder fits over the transparency unit's imaging area and provides a white surface to scan against. While you could just place a piece of white paper behind reflective documents, the Reflection Document Holder protects the glass covering on the AT-45.

### Documentation and support

Nikon supplies separate manuals for installing and configuring the Scantouch and the transparency attachment and for using the Nikon Scan software. During our review period, the latter had not been updated to match the most recent version of the software, but this should be corrected by the time you read this.

The company provides a toll-free technical support number and is present on all the major on-line services as well as on its own BBS. Phone support was helpful and knowledgeable.

### Conclusions

The speedy and sharp Scantouch is a fine scanner for performing reliable OCR work and high-quality gray-scale scans. For occasional color work, the Scantouch will provide very nice results whether your images are scanned from transparencies or opaque documents. With Nikon's great scanning software and the bundled OCR package, business users will find this a solid value.

Nikon Inc. of Melville, N.Y., can be reached at (516) 547-4355 or (800) 526-4566; fax (516) 547-0305; nikon@aol.com. □

IN BRIEF

## CyberSound FX

*Set of 15 Premiere plug-ins adds needed audio processing*

**Overall value** ♦♦♦♦

While Adobe Premiere is an excellent tool for editing QuickTime movies, it has never provided much in the way of audio editing. CyberSound FX, a set of 15 Premiere plug-ins by InVision Interactive Inc., adds some needed audio processing to the Premiere toolbox.

The $129 CyberSound package can be used with Premiere 3.0 and higher. The filters decompress from a single floppy into the Plug-ins folder inside your Premiere folder. Once installed, the filters are available through the standard Premiere filter interface. Simply select an audio clip, choose the Filter command and then apply as many audio filters as you like.

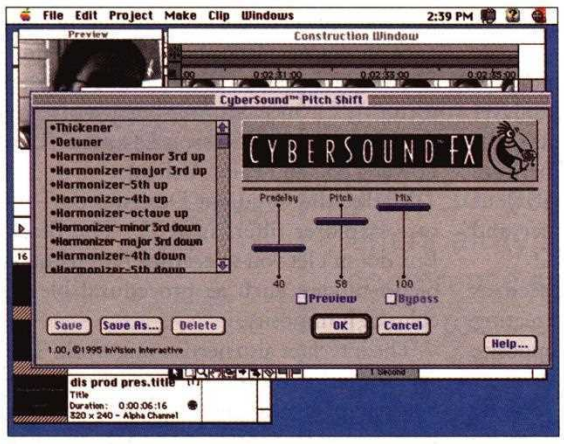
### Pet sounds

CyberSound's filters include most of the effects you'd expect to find on a high-quality mixer or digital effects processor. For reverb effects, the package includes Chamber, Small Hall and Large Hall reverb.

For equalization, CyberSound provides a Shelf Equalizer, Parametric Equalizer and Dynamic Filter. These filters function like their real-world counterparts and provide simple controls for adjusting equalizer (EQ) levels.

The Compressor filter limits the dynamic range of a clip by boosting quiet sounds while constraining loud ones. Ideal for voice-overs, this filter provides an effective way to remove ambient rumbles from a vocal track. In a similar vein, the Normalize filter normalizes a track by resampling the clip so that its peaks are as loud as possible.

Two delay filters are included: Delay and Multi-Tap Delay. The latter can be used to create everything from basic echoes to rhythmic, repeating echoes. Finally, Chorus, Flange, Phaser, and Tremolo and Pitch Shifter provide the remaining effects you'd expect to find on a good effects processor.




**The 15 audio filters in InVision's CyberSound FX share a common interface with presets in a scrolling list on the left side and filter-specific sliders on the right.**

### Sound and vision

Using the filters is very easy: If you've ever worked with an effects processor, mixer or equalizer, CyberSound's controls will feel familiar. All the filters share a common interface in the form of a single dialog. A scrolling list of about a dozen presets sits on the left half of the dialog, while sliders appropriate to each filter are displayed on the right side. A Preview button plays a looped preview of your sound (you can define its duration in the Preferences dialog).

The filters' presets cover a generous range of effects, ensuring that even novice editors will be able to generate the audio effects they desire. For instance, presets for the Chorus filter include Light Chorus, Medium Chorus, Underwater and Vibrato.

If the presets don't satisfy your audio needs, you can tinker with the slider controls, which include the standard categories you'd expect. The Flange filter, for instance, has sliders for controlling delay, feedback, speed, depth and mix.

In addition to the short but effective manual, each filter includes a help screen with details of each slider as well as tips from the manual. If you really get stuck, InVision's tech support is helpful and knowledgeable.

### Sounding board

The main problem we experienced when working with CyberSound is actually Premiere's fault. Premiere has no provision for selecting just part of a piece of audio — you can apply effects only to an entire clip. This means that if you want to insert a chorus effect into the middle of a clip, you must use Premiere's Razor Blade tool to cut the middle of the clip apart from the rest and then apply the filter to the new clip. Although this technique is effective, it's somewhat nonintuitive and can make it difficult to overlap effects across cuts.

Also, audio filters cannot have different starting and ending parameters — another of Premiere's deficiencies. Because of this you cannot fade an effect in or out: CyberSound's effects must be either present or not. It's not possible to have a reverb increase over time, or to have a tremolo effect decrease over the length of a clip.

These limitations place CyberSound in an interesting position: It can do much more than the host program currently allows. So, for example, if your movie has some low-quality audio clips, you can run them through one of CyberSound's EQ effects to improve their overall sound quality and then apply some of the other filters to add interest. But if you plan to do a lot of extended audio editing and mixing, you'll need to do so in a dedicated sound application.

### Conclusions

For applying simple effects or improving the EQ of a clip in Premiere, CyberSound FX is a sound solution. The filters are reasonably priced and easy to use, and they produce high-quality results at any bit depth or sampling rate. Having these effects within Premiere is a real convenience, obviating the need to pull a soundtrack into an external application. Now if only Adobe Systems Inc. would add some editing power to Premiere's audio capabilities, CyberSound would be an excellent high-end solution as well.

CyberSound FX can only be bought direct from InVision Interactive.

InVision Interactive Inc. of Palo Alto, Calif., can be reached at (415) 812-7380 or (800) 468-5530; fax (415) 812-7386; http://www.cybersound.com; dennym@cybersound.com. — *By Ben Long*

## DragStrip 2.0

*Latest upgrade offers better, easier Finder controls*

**Overall value** ♦♦♦♦

Although DragStrip 1.0 was released only six months ago, Natural Intelligence Inc. is already back with Version 2.0 of its desktop organizer, and the result is a greatly improved product. The $59.95 utility, which gives you access to frequently used files and folders with a single click, boasts a long list of enhancements, including full AppleScript support, the capability to store data in a strip as clippings, the addition of hot keys for process switching and improved drag-and-drop functionality.

DragStrip works on any Mac with a 68020 processor or better and requires at least System 7.0. It can be installed for 680x0 or Power Macs or as a fat-binary file. DragStrip includes Mac Drag and Drop extensions for those using a pre-7.5 version of the Mac OS.

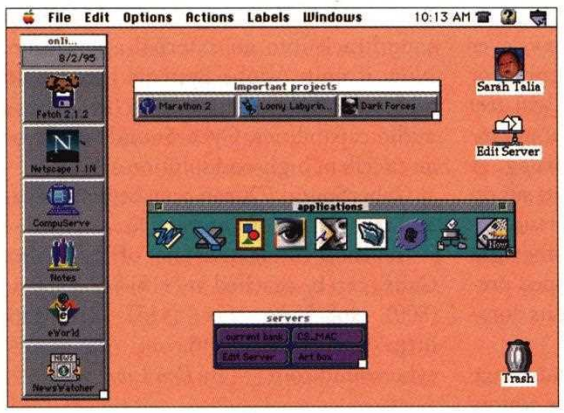
### The strip

To use DragStrip, you simply drag any item from the Finder — such as a folder, application, document or volume — onto a "strip." This creates an icon for the item on the strip; clicking once on the icon launches the item, no matter where it resides on your Mac or network. (Icons are aliases, not the items themselves.)

Although we liked Version 1 (see MacWEEK, March 6, Page 39), Version 2 adds much greater functionality to the program. Along with standard Finder items, you can now store data, including pictures, text, sound and QuickTime movies, on strips as clippings. This lets you do such things as create a World-Wide Web browsing strip that stores the URLs (universal resource locators) of frequently accessed sites. You can save a URL as a clipping on a strip button and then just drag it onto your browser to quickly move to that site. If you do a lot of writing, you can create a strip to store stock paragraphs and pictures that you frequently use. You can then copy and paste clippings from the strip or, if you are using a drag-savvy word processor, simply drag these items from your strip directly into your document.

AppleScript support adds a new dimension to DragStrip by letting you create and manage strips with scripts, which is a great addition for managers. For example, you could distribute a script that automatically

*See DragStrip, next page*




**Natural Intelligence's DragStrip makes it easier to navigate your Mac via resizable strips of buttons that can summon applications, documents, folders, volumes or data clippings. Version 2.0 lets you add color and text labels to buttons.**

## DragStrip

*From previous page*

creates customized strips for your users based on inventories of their applications and frequently used documents.

With DragStrip 2 you can now place documents in folders by dragging through hierarchical menus on strip buttons. You can also set hot keys to switch among active applications. A new DragStrip Addition lets you group multiple items into one button on a strip and open them all simultaneously.

One feature we would still like to see added is the capability to create strips that are always visible, much like Apple's Control Strip. Although you can quickly switch to DragStrip using a hot key or screen hot spot, this feature could save an extra keystroke or button click for frequently accessed strips.

DragStrip 2 also gives you much greater flexibility over button and strip appearance. Version 1 basically had single-sized buttons, and there was no way to add a text label to a button to identify it. Now, essentially every facet of the program can be customized.

You can create strips with large or small icons, with or without text. You can choose different button styles, customize their size and rename them with any label. Strips can also display the current date and time in the optional status bar. You can specify custom colors for buttons, backgrounds and status bars. You can set options for DragStrip's overall behavior and appearance as well as on a strip-by-strip level.

You can access a lot of DragStrip's custom features via modifier keys that we sometimes had trouble remembering, but we suspect that this is something you get used to over time. Still, it would be nice to have an Apple Guide or on-line help page that lists all the program's key combinations.

### Documentation and support

DragStrip's documentation has been entirely rewritten for Version 2 and provides a thorough reference for both beginners and experienced users. Technical support remains excellent and focused on problem solving and on soliciting enhancements to help improve the package.

### Conclusions

By focusing on user requests and criticism of Version 1, Natural Intelligence has significantly improved DragStrip and clearly demonstrated its commitment to this product. While the company was intent on improving the Finder in DragStrip 1, Version 2 offers a host of improvements, making the utility easier to use through a more customizable and powerful interface. It now surpasses competing products, such as shareware Malph, HoverBar and DragThing, and Binary Software Inc.'s Square One. Given its extensive list of improvements, we recommend DragStrip 2 to anyone tired of using the hapless and aging Finder to wend their way through a cluttered desktop.

DragStrip 2.0 is available directly from Natural Intelligence for $39.95 until Sept. 15. Upgrades from Version 1 are $19.95; free if purchased after July 1.

Natural Intelligence Inc. of Cambridge, Mass., can be reached at (617) 876-7680 or (800) 999-4649; fax (617) 492-7425; info@natural.com; http://www.natural.com. — *By Jonathan A. Oski*

# The Black Box 2.0

## *Alien Skin's 10 plug-ins add depth to Photoshop images*

**Overall value** ◆◆◆

If you want to add more flourish to your images or illustrations, but lack the skill to create graphic effects, you'll find The Black Box 2.0 from Alien Skin Software LLC very helpful. This $119 collection of Adobe Photoshop plug-ins provides impressive shortcuts to graphic tasks such as creating drop shadows or adding bevels.

Four of the 10 filters are new to Version 2: Inner Bevel, Cutout, Carve and Motion Trail. The Black Box also includes a new preview window, the capability to save and restore filter settings, and the capacity to work within Photoshop 3.0's layers.

Version 2 can be used within Photoshop 2.5 (Photoshop 3 for work within layers) or MicroFrontier Inc.'s Color It! 3.0. The Black Box requires System 7.1 and 2 Mbytes of RAM (on top of the RAM required to run the host application). The plug-ins are Power Mac-native and install as a fat-binary application.

### Depth on demand

The Black Box makes adding depth to your image easy: Select a graphic element or layer (in Photoshop), make the adjustments to the plug-in's interface and click OK. There are five plug-ins that can add depth to your image: Drop Shadow, Cutout, Inner and Outer Bevel, and Carve.

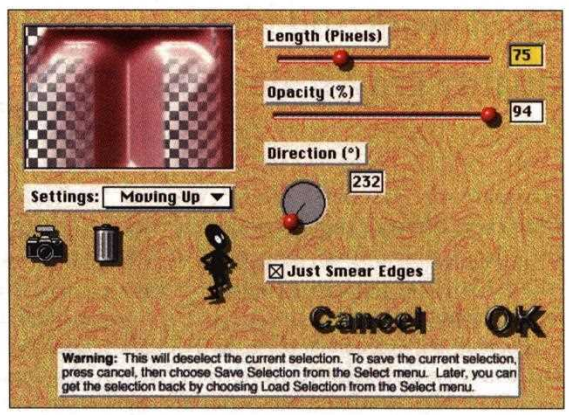
Drop Shadow makes a selection seem as if it is floating above the surface by creating a shadow beneath. Cutout has the opposite effect, making your selection look like a hole in the image by adding a shadow within the selection.

The Inner and Outer Bevel filters make an image appear to lift up from the background by adding highlights and shadows around either the inner or outer edge of the selection. These bevel features are very time-consuming for the results they produce, although it's nice to be able to place 3-D effects on a 2-D image.

Finally, the Carve filter makes the selection appear as if it had been carved or dented out of the background. This filter is not really worth the effort it takes, although all of the depth filters earned our respect for their capability to intuitively conform to the shape of the selection.

We found Drop Shadow to be the most powerful tool in The Black Box's set. But we discovered one glitch when we used anti-aliased graphics or text: Instead of using the feathered selection created when the art element was blended or anti-aliased, The Black Box created its own selection to apply the effect outside the original selection. Unfortunately, The Black Box doesn't start with the beginning of the anti-aliased edge; it goes to the outside of the edge, which leaves a slight line around the image after the effect is completed. Alien Skin said it is working on a correction.

The remaining plug-ins — Swirl, Glow, HSB Noise, Glass and Motion Trail — provide interesting but somewhat more eclectic effects that have more-limited applications. The new Motion Trail filter provides a smeared shadow effect, implying movement. We found Swirl particularly impressive when applied to add texture to backgrounds; its complexity is reminiscent of the effects created by Xaos Tools Inc.'s Paint Alchemy.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OK
Warning: This will deselect the current selection. To save the current selection, press cancel, then choose Save Selection from the Select menu. Later, you can get the selection back by choosing Load Selection from the Select menu.

**Smearing effects that imply movement are achieved through The Black Box 2's new Motion Trail filter. Length, opacity and direction controls let you customize the effect.**

### Caution: Work in progress

The Black Box's three new performance features are not much to shout about. Although the read-me file acknowledges the slow performance of the new preview window, we were disappointed that the window often didn't function or took too long to show the preview. Clicking on the preview window will force it to render a preview, while pressing Command-Period stops a preview from rendering. However, this was not very consistent.

The Black Box's capability to work within Photoshop 3 layers is convenient, but it seems like a feature Alien Skin had to add to come up to speed with its competitors. With the new save-and-restore settings feature, you click on a camera icon and name the setting. It will then be stored in the Settings pop-up menu. It's a nice feature, but it's already available in HSC Software Corp.'s Kai's Power Tools and Paint Alchemy.

Unlike the Gradient Designer or Texture Explorer filters in KPT, The Black Box doesn't let you select different paint or blend modes, such as procedural blend, color or luminosity.

The interface also needs some work. The 3-D Cancel and OK buttons are active on only part of the text graphic, so they don't always respond when you click on them. Alien Skin said it will address this in Version 2.01, a free upgrade due out in two months.

Because The Black Box uses Power Mac-native code, you can expect performance to improve five to six times when using the plug-ins on a Power Mac rather than a 68040 machine. However, even when rendered on a Power Mac 9500, The Black Box effects were a little on the slow side. Alien Skin said it will be significantly improving performance in Version 2.01.

This upgrade will also add support for Fractal Design Corp.'s Painter and Pixel Resources Inc.'s PixelPaint Professional. We'd like to see future versions of The Black Box's plug-ins be compatible with Adobe Premiere; it would be nice to apply these effects to moving images.

### Documentation and support

The Black Box's manual is succinct, offering good troubleshooting advice. Alien Skin's technical support is free. When we called, we received immediate and helpful assistance.

### Conclusions

Priced at $30 to $80 below its competitors, The Black Box has a lot of potential for beginning Photoshop users who want to add drop shadows, bevels and other effects to their graphics. Photoshop professionals, however, will find the program is not powerful enough for their use. Specifically, we'd like to see improvements made to The Black Box's performance, interface and compatibility with other programs. Although the filters — specifically Drop Shadow — are good, most are available in other programs. While not a substitute for other, more extensive plug-in products, The Black Box is a good, inexpensive addition to your current Photoshop plug-in collection, especially valuable for its depth tools.

Upgrades from Version 1.0 are $29; free if The Black Box was purchased on or after April 1.

Alien Skin Software LLC of Raleigh, N.C., can be reached at (919) 832-4124; fax (919) 832-4065; alien@mercury.interpath.net. — *By Erik Holsinger*

## For the record

In the July 31 issue (Page 26), we incorrectly stated the World-Wide Web capabilities of Claris Corp.'s ClarisWorks 4.0. The program can convert graphics to PICT format.

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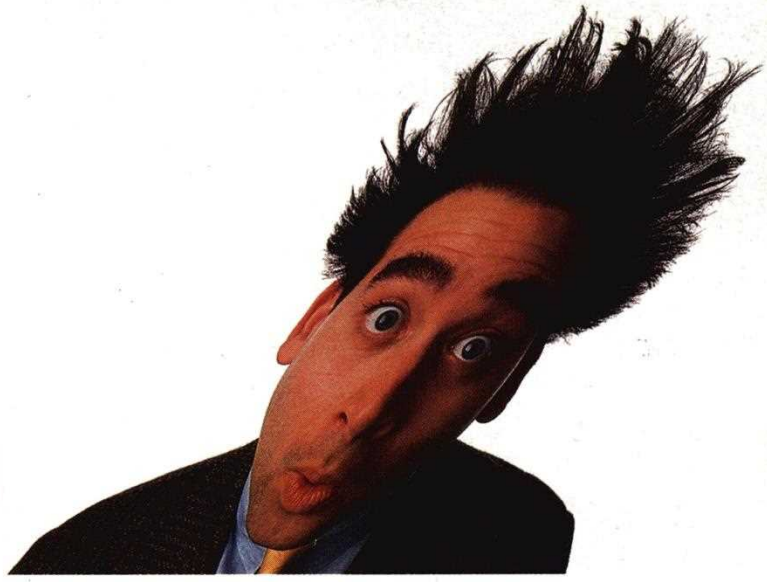

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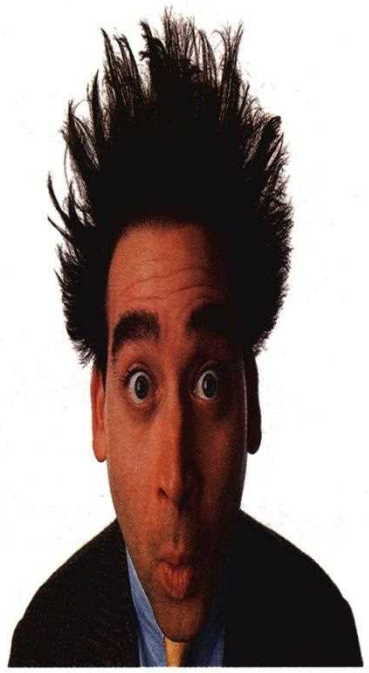

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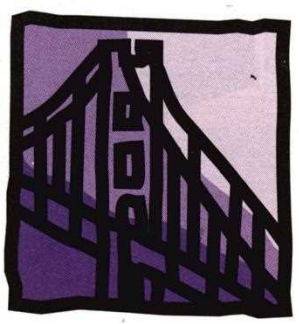

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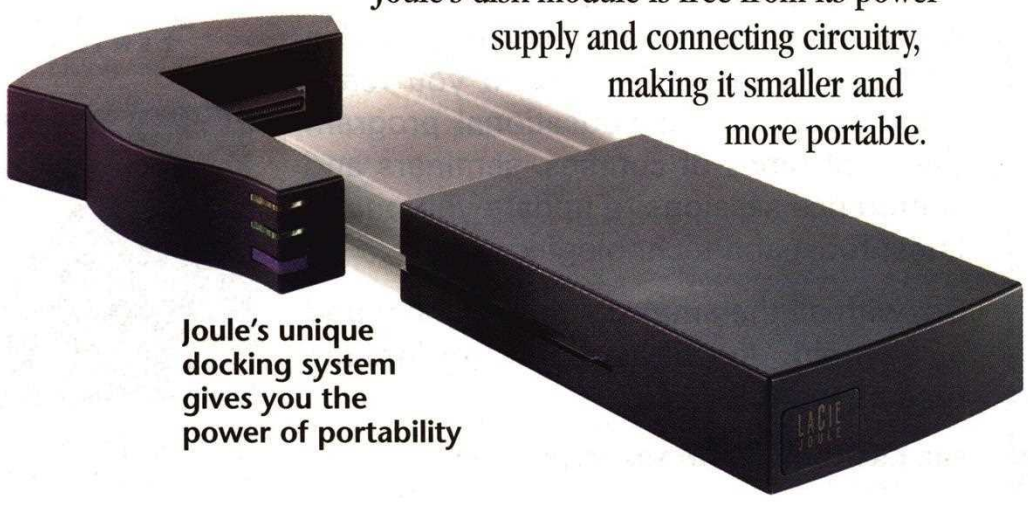

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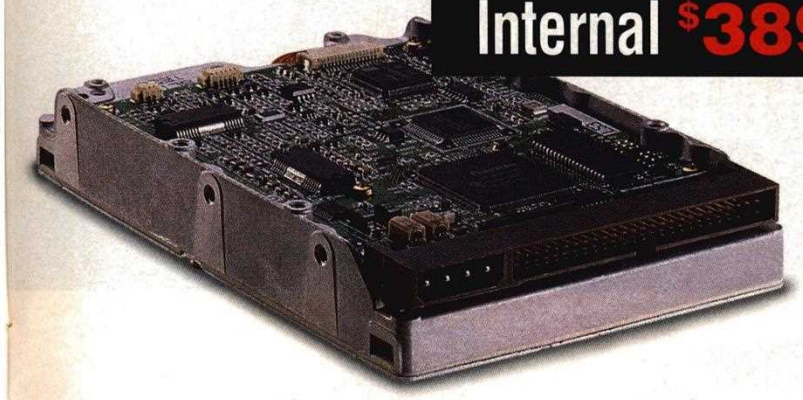

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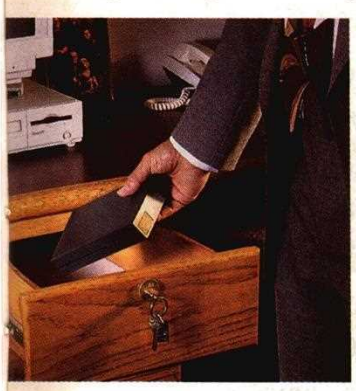

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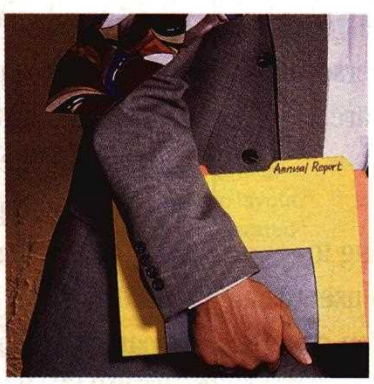


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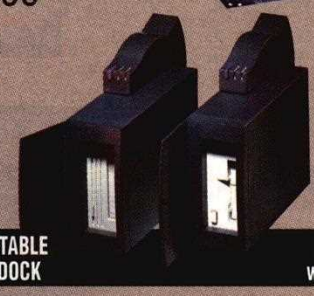

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**PROMO IN MOTION**

**For a review of Motion Works International Inc.'s PROmotion 1.5.3, see MacWEEK, July 31, Page 28.**

**PRESENTATION SOFTWARE**

# Apps put business demos in motion

**By Michael Miley**

**Midrange multimedia animation software eases production of presentations.**

Corporate executives, sales and marketing people, and consultants of every sort are often called upon to give presentations to potential clients. Usually this takes the form of traditional media: a graphically enhanced set of slides output on paper, transparencies or 35mm slides. A growing subset of these presentations, however, are created electronically with multimedia effects — the bag of on-line tricks that includes moving text, scanned images, animation, sound clips, QuickTime movies and interactivity.

Multimedia presentation software is the midrange category — between high-end authoring systems and media-editing programs — that makes multimedia presentations accessible to the average user. More-powerful computers and color monitors, as well as LCD panels and projectors, have also increased the availability of the technology.

The first tier of multimedia presentation software takes its cue from traditional slide presentations and is divided into two types. The old standbys, such as Microsoft Corp.'s PowerPoint and Adobe Persuasion, have been upgraded over the past few years to support multimedia. Macromedia Inc.'s Action! for the Macintosh and Gold Disk Inc.'s Astound have been designed from the start with an eye toward on-line presentations.

Cindy Pope is an instructor for the TI-IN Network, the satellite education division of Westcott Communications Inc. that broadcasts from San Antonio, Texas.

TI-IN is a learning facility that offers daily televised classes to 7,000 high school students as well as to thousands of students from elementary and junior high schools. Part of a business and state education partnership to provide instruction to students in remote parts of Texas, TI-IN is strictly monitored for its quality of content by Westcott, which regulates everything from font sizes to screen colors.

**Interactive Media's Special Delivery was used to create this computer kiosk for the State of New Hampshire Liquor Stores. The kiosks, produced by Video Troupe of Wyndham, N.H., are located in the front of stores and offer advice on wine, food and sale items.**

"All 20 TI-IN instructors broadcast interactive multimedia lessons in Adobe Persuasion 25 to 50 minutes per day, 180 days a year," Pope said. "The program is so easy to use I can train an instructor with no computer experience to use Persuasion in an hour and a half. Its customizable templates make it easier for us to follow the necessary standards."

Instructors at TI-IN rely heavily on interactive multimedia elements to grab the students' attention. They import movies, animations, photographs and sound effects into their presentations and use Persuasion's Autojump features for a learning game. Autolayer also helps to focus students' attention. "I can create text that comes on-screen in different colors at different times, helping students focus on one concept at a time," Pope said.

### Get interactive

In a similar way, time controls and better interactivity are important to Gregory White, vice president of business development/employee benefit plans at Bank of America Oregon in Portland. White uses sales presentations to educate potential employers and participating employees about the bank's retirement plans. The four-part presentation, which includes details on planning and investment tools, uses animated text and graphics to help make White's points. His slides include pie charts and bar charts, with components that appear both independently and together, to form either a slice or the whole pie or bar chart. He has used both PowerPoint and Persuasion before, but for the past 18 months his program of choice has been Astound.

"I might have 12 objects on screen at a given time that I want to coordinate," White said. "With Astound, I can pull up the Timeline and manipulate what time a pie chart comes on-line or goes off-screen or when the bars in a bar chart will grow. I like that kind of control."

Using his PowerBook 180c with 10 Mbytes of RAM and an InFocus TVT-3000 LCD panel from InFocus Systems Inc., White can give his presentations anywhere. "I also like being able to give the presentation to potential clients [to keep]. With the Windows or Mac player, they can play it on either machine," White said.

With the recent upgrades, both PowerPoint 4.0 and Persuasion 3.0 now have simple bullet animation, slide transitions and branching. Persuasion has also included animation capabilities in its graphics and 3-D charts, as well as layered transition effects in which the timing for each component can be set individually or globally. Action! 1.0 and Astound 2.0 improve on this by adding a Timeline window, separately controlling the entrance, persistence and exit phases of animated objects. The two programs also now contain path-based animation and tweening with Astound (to transform one object into another), as well as objects that act as buttons for hopping back and forth among slides for nonlinear presentations.

All of the midrange multimedia presentation applications incorporate different types of media in a presentation, including PICT and QuickTime. Where they differ is the level of control and interactivity that they provide when using that media. All of the programs mentioned are available for Windows, with presentation players on both platforms. However, Action! 1.0 for the Mac is not interoperable with Action! for Windows 3.0.

### Animation and authoring

The second tier of multimedia presentation programs for the Mac includes two kinds of software: animation programs geared for presentation, such as Vividus Corp.'s Cinemation (and its CD version), Motion

*See Solutions, next page*

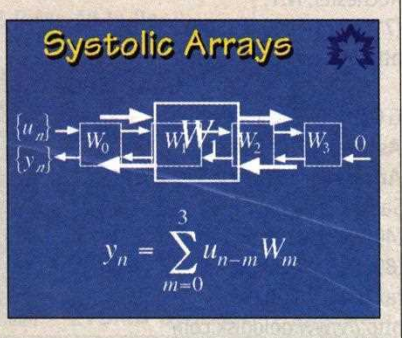
## No more hand waving

**Graham Jullien is a professor of electronic engineering at the University of Windsor in Ontario. He uses Cinemation 1.1 to help students visualize complex electrical processes and chipboard manufacturing by animating the concepts in his classroom.**

**Jullien gives about 50 conference presentations a year. He produces his complex presentations — with as many as 200 frames — on a PowerBook Duo 280c with 24 Mbytes of RAM, a 330-Mbyte hard drive, Proxima Corp.'s Ovation 1822c projector and a Thumbelina mouse from APT Inc.**

**"For a class, I had to show a module generator putting chips together from schematic to layout," Jullien said. "I generated the chip structure over 10 frames, and in the final one I rotated it 90 degrees, shrunk it down and placed it right into the structure. About six seconds of animation saved me 20 minutes of hand waving and abstraction."**

**His presentations (right) make extensive use of interpolations, partial dissolves, QuickTime movies, color-coding, equations extracted from other equations (created in Microsoft Word), as well as drawings created in Deneba Software's Canvas. "I've been a professor for 25 years and have gone through the blackboard, slide shows and video," Jullien said. "This is what I've been waiting for." — By Michael Miley**



**MACINTOUCH** RIC FORD

# Adding 9500 bugs and tips to list, plus more MACE

More details are available this week about compatibility problems with the Power Macintosh 9500 and System 7.5.2. As previously noted, most of these issues will apply to the new Power Mac 7200, 7500 and 8500 models, too, but new variants of System 7.5.2 (or its enabler code) and Open Transport apparently ship with these models.

Symantec Corp.'s Norton Utilities reportedly works correctly with System 7.5.2 but does not yet support large disk volumes (those greater than 2 Gbytes). Support for large volumes apparently has not arrived yet in disk formatters (even Apple's), so Symantec developers have been unable to test their code. FWB Inc.'s Hard Disk ToolKit 1.8, however, is due out shortly and promises to include this 2-terabyte support.

**Quark problems are related to network-based serialization schemes.**

### Unsystemic SAM

SAM (Symantec AntiVirus for Macintosh) 4.0 does not work with System 7.5.2 because of a problem loading its virus definitions. A fix is planned, but there is no estimated release date.

Suitcase 2.1.4 fails to deliver fonts for printing on the 9500. Symantec is researching the problem. ALSoft Inc.'s Master Juggler and Disk Express II work on the 9500, say company representatives.

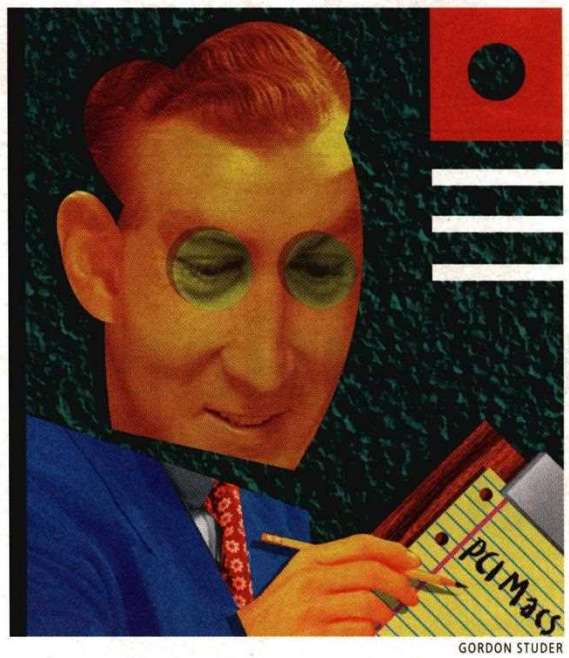
Symantec's CopyDoubler 2.0.4 does not work on the PCI-based Macs. Copies proceed in the Finder without any of CopyDoubler's additional features. AutoDoubler has problems on the 9500, too, and copying compressed files results in a disk error.

No official fix for CopyDoubler was available when I checked, but an unofficial hack worked for reader Chris Ferebee. Using a resource editor, change one byte from $3E to $41 in the INIT 0 resource — at offset $13A7 in CopyDoubler 2.0.4 or offset $13C3 in CopyDoubler 2.0.5. The hacked version will not work with older Finders.

Finally, Symantec's DiskLock 3.0 is incompatible with the caching code in Apple's new disk formatter, Drive Setup. DiskLock sees a problem at shutdown and unprotects the disk as a result. Symantec suggests using a third-party formatter as a work-around.

Drive Setup is based on code shared with Casa Blanca Works Inc.'s Drive7 and APS Technologies Inc.'s PowerTools formatters. These programs, unlike Drive Setup, can disable the cache for DiskLock compatibility.

Symantec makes changes to its products without changing version numbers in a process it terms "inline" updates, so it can be difficult to determine whether your copy of a Symantec utility is compatible with the latest Macs. The About box in the application may provide more details.



GORDON STUDER

Some other 9500 issues have already been noted elsewhere in MacWEEK, including incompatibilities with a variety of Apple networking and server products (see MacWEEK, July 24, pages 3 and 16). Some 9500 owners report severe problems with memory; a memory controller bug was reportedly fixed after an initial production run (see MacWEEK, July 31, Page 78).

Problems with QuarkXPress are related to Open Transport and network-based serialization schemes, affecting both the application and serialized XTension modules. Applying the Open Transport 1.0.1 patch (see MacWEEK, July 17, Page 38) should help but may not solve all the XPress problems.

People upgrading to PCI Macs from Quadras may get bitten by the lack of "sync on green," which some non-Apple monitors need (see MacWEEK, Sept. 6, 1993, Page 66). Different cables or adapters can often solve the problem. Griffin Communications Co.'s $40 Mac Sync Video Adapter is another option. It adds sync to the green signals on Power Macs for compatibility with most existing monitors. Phone Griffin at (615) 399-0990; fax (615) 399-7060.

One tip (not a bug) applies only to the 9500, which has two PCI controllers for its six slots. According to an Apple Tech Info note ("Power Macintosh 9500: Optimizing PCI card performance"), slots D2, E2 and F2 offer better performance than the first slots, which are shared with other controllers (e.g. SCSI) on the motherboard.

### MACE redux

Several readers asked for more details about the start-up bug with Apple's MACE (Media Access Controller for Ethernet) chip (see MacWEEK, July 31, Page 38), and Ferebee, who had had the problem, explained the symptoms: "What happens is that the Mac will hang during the start-up chord, which goes on forever. The work-around is, indeed, to reboot the Mac without the transceiver, then connect it afterwards." □

*Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at http://www.macintouch.com/~ricford/.*

## SOLUTIONS

*From previous page*

Works International Inc.'s PROmotion and Gold Disk's Animation Works, and midrange multimedia delivery or authoring systems, such as Interactive Media Corp.'s Special Delivery and Eastman Kodak Co.'s Arrange-It Photo CD Portfolio II Layout Software, which do not require users to learn a scripting language.

### No more slides

Cinemation, PROmotion and Animation Works depart from the slide-show metaphor. Instead, they contain editable cels in a movie strip with objects or "actors" moving across the screen. Successive positions of an actor can be edited in stop motion for onion-skinning or ghosting effects. Built-in sound recording — and editing in PROmotion — is supported, as is 24-bit painting in Cinemation and PROmotion, and PICT, PICS, QuickTime, MacPaint and Scrapbook file formats can be used. For some users, the more granulated control offered by an animation package provides the flexibility needed for complex presentations.

Special Delivery 2.0 and Arrange-It return to the slide notion but primarily as the site of integration for media created elsewhere. Special Delivery, which uses a "button" view for creating interactivity, is specifically geared for on-line presentations and imports snd, QuickTime, Photo CD, PICT and AIFF (Audio Interchange File Format) files. Arrange-It is focused on Photo CD disc production, using flowchart-type visual layout building for nonlinear presentations. It handles Photo CD Master, Pro and Portfolio formats, as well as PICT and TIFF images and AIFF formats.

Harry Mott, education director at the American Film Institute in Los Angeles and president of his own company, Mott 4 Productions, uses Special Delivery for presentations at Macworld Expo and Digital World for proof-of-concept prototypes for his clients, for designing World-Wide Web pages, and for interactive projects.

Mott worked for the Eames Foundation, a Pacific Palisades, Calif.-based design house that created the 1977 film "The Powers of Ten," in which concepts of size and space were skewed, zooming in on the smallest element, such as an ant, then immediately panning out to the largest object, such as a building.

"Eames Demetrios was doing an interactive prototype of 'The Powers of Ten' for a Japanese firm," Mott said. "Each screen had 15 different buttons on it, and there were 14 to 18 screens, each with a whole new interface. I did it in two weeks and he got the contract. It was so complicated, I couldn't have done it without Special Delivery." □

### PRODUCT INFO

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**Adobe Persuasion 3.0:** $395
Mountain View, Calif.
(206) 628-2749 or (800) 628-2320

EASTMAN KODAK CO.
**Kodak Arrange-It Photo CD Portfolio II Layout Software:** $395
Rochester, N.Y.
(716) 724-4000 or (800) 235-6325;
http://www.kodak.com

GOLD DISK INC.
**Astound 2.0:** $249.95;
**Animation Works:** $199.95
Santa Clara, Calif.
(408) 982-0200 or
(800) 982-9888;
fax (408) 982-0298;
http://www.golddisk.com

INTERACTIVE MEDIA CORP.
**Special Delivery 2.1:** $259
Los Altos, Calif.
(415) 948-0745;
imcmarketing@applelink.apple.com

MACROMEDIA INC.
**Action! 1.0 for Macintosh:** $199
San Francisco
(415) 252-2000 or (800) 326-2128; fax (415) 626-0554; http://www.macromedia.com

MICROSOFT CORP.
**PowerPoint 4.0:** $339
Redmond, Wash.
(206) 882-8080 or (800) 426-9400;
fax (206) 936-7329

MOTION WORKS INTERNATIONAL INC.
**PROmotion 1.5:** $199 (with Primetime CD-ROM library)
San Francisco
(415) 541-9333; fax (415) 541-0555;
info@motionworks.com

VIVIDUS CORP.
**Cinemation 1.1:** $295; **CinemationCD:** $145
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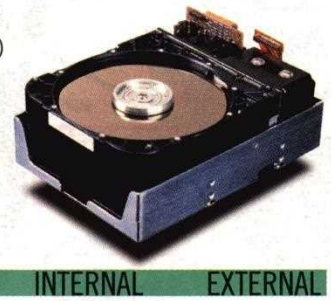

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| FUJITSU M2684S | 530MB | 3.5" | 13MS | 5400 | $ 209 | $ 269 |
| NEC | 730MB | 3.5" | 11MS | 4090 | $ 239 | $ 299 |
| CONNER CFP1080S | 1.2GIG | 3.5" LP | 9MS | 5400 | $ 455 | $ 515 |
| Hitachi DK326c-10 | 1.0GIG | 3.5" | 9MS | 6300 | $ 435 | $ 495 |
| FUJITSU M1606S | 1.2GIG | 3.5" LP | 10MS | 5400 | $ 415 | $ 475 |
| Seagate ST31230N | 1.2GIG | 3.5" LP | 9MS | 5400 | $ 485 | $ 545 |

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| Conner CFP2105S | 2.1GIG | 3.5" LP | 9MS | 5400 | $ 835 | $ 895 |
| Fujitsu M2915S | 2.1GIG | 3.5" | 8.9S | 7200 | $ 925 | $ 975 |
| Conner CFP2107S | 2.1GIG | 3.5" LP | 8MS | 7200 | $ 939 | $ 999 |
| Quantum XP32150S | 2.2GIG | 3.5" LP | 8.6MS | 7200 | $ 935 | $ 995 |
| Seagate Barracuda 2 | 2.5GIG | 3.5" LP | 8MS | 7200 | $ 1055 | $ 1115 |
| Seagate Barracuda 2W | 2.5GIG | 3.5" LP | 8MS | 7200 | $ 1189 | $ 1249 |
| Seagate Barracuda 4 | 4.1GIG | 3.5" | 8MS | 7200 | $ 1499 | $ 1559 |
| Seagate ST15230N | 4.3GIG | 3.5" | 9MS | 5400 | $ 1155 | $ 1215 |
| Conner CFP4207S | 4.2GIG | 3.5" | 9MS | 7200 | $ 1239 | $ 1299 |
| Conner CFP4207wide | 4.2GIG | 3.5" | 9MS | 7200 | $ 1335 | $ 1395 |
| Grand Prix XP34301S | 4.3GIG | 3.5" | 8.6MS | 7200 | $ 1089 | $ 1149 |
| Seagate Elite 9 | 9.0GIG | 5.25" | 11MS | 5400 | $ 2495 | $ 2595 |

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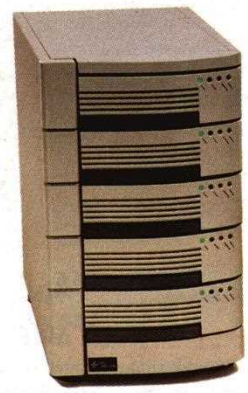

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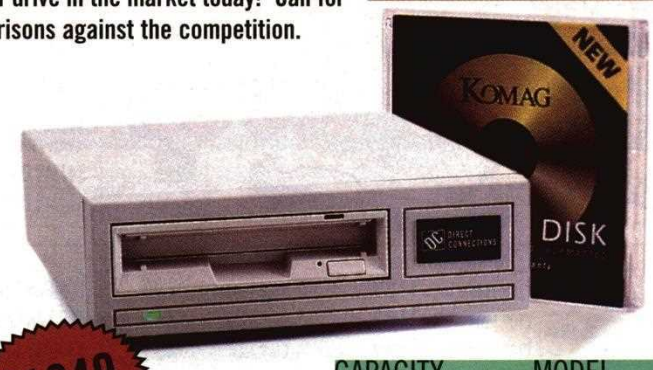


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|---|---|---|---|---|
| 341MB DAYTONA 17ms | Q030 1041 | $299 | C109 1119 | $419 |
| 514MB DAYTONA 17ms | Q030 1002 | $375 | C109 1109 | $495 |

| | Part No. | Internal | Part No. | External |
|---|---|---|---|---|
| 1080MB Fireball 12ms | C109 1202 | $389 | C109 1203 | $449 |
| 2200MB Capella 8.5ms | C109 1213 | $759 | C109 1212 | $819 |
| 4300MB Grand Prix 8.6ms | C109 1159 | $1099 | C109 1108 | $1159 |
| 4300MB Atlas 8ms | C109 1122 | $1499 | C109 1121 | $1559 |

Mac OS COMPATIBLE

Incredibly Low Price

### QUANTUM GRANDPRIX 4.3GB 7200 RPM

$1099

NOW SHIPPING WITH ACTIVE TERMINATION

Backed by ClubMac's 30 DAY Money Back Guarantee

Internal Grand Prix C109 1159

## Seagate

Mac OS COMPATIBLE

Seagate 5 YEAR Warranty

### 3.5" HALF HEIGHT & LOW PROFILE (LP)

| Unformatted Capacity | Model | Description | Part No. | Internal | Part No. | External |
|---|---|---|---|---|---|---|
| 2.4GB | 32430N | Hawk 2 LP | C109 2211 | $899 | C109 2112 | $959 |
| 4.3GB | 15230N | Hawk 4 | C109 2212 | $1099 | C109 2113 | $1159 |
| 2.5GB | 32550N | Barracuda 2 LP | C109 2203 | $1069 | C109 2109 | $1129 |
| 4.3GB | 15150N | Barracuda 4 | C109 2207 | $1499 | C109 2106 | $1559 |

### 5.25" FULL HEIGHT

| | | | | | | |
|---|---|---|---|---|---|---|
| 9.1GB | 410800N | Elite-9 | | | C109 2110 | $2599 |

Backed by ClubMac's 30 DAY Money Back Guarantee

NOW SHIPPING WITH ACTIVE TERMINATION

### BARRACUDA 4 4.3GB 7,200 RPM

8.5ms average seek time

Internal Barracuda C109 2207 $1499

## HEWLETT PACKARD

### HP SureStore Disk 1000S+ and 2000LP

Internal HP C109 1208 $379

FEATURES
- 3.5-inch low-file format
- Up to 9.5ms average seek time
- 5,400 RPM rotational speed
- 800,00 HOURS MTFB

5 YEAR WARRANTY

Backed by ClubMac's 30 DAY Money Back Guarantee

NOW SHIPPING WITH ACTIVE TERMINATION

| Capacity | Model | Model Number | Part Number | Internal | Part Number | External |
|---|---|---|---|---|---|---|
| 1.0GB | SureStore 1000S+ | C3724 | C109 1208 | $379 | C109 1209 | $439 |
| 2.0GB | SureStore 2000LP | C3725 | C109 1210 | $769 | C109 1211 | $829 |

# DAT AND OPTICAL STORAGE

## ClubMac Tape Backup Drives

C109 5011 $699

FREE DAT TAPE

BUNDLED WITH Retrospect v2.1 Backup Software

DDS-1 2.0GB

$899 C109 5010

DDS-2 4-8GB

Mac OS COMPATIBLE

NOW SHIPPING WITH ACTIVE TERMINATION

Backed by ClubMac's 30 DAY Money Back Guarantee

One Year Warranty

## ClubMac 5.25" OLYMPUS 1.3GB

- 5.25" Olympus Optical Mechanism
- 29ms ave. seek time
- 3,500 RPM rotational speed

1.3GB $1499 C109 5022

Backed by ClubMac's 30 DAY Money Back Guarantee

## CLUBMAC 3.5" OLYMPUS 230MB

NOW SHIPPING WITH ACTIVE TERMINATION

- 3.5" Olympus Optical Mechanism
- 28ms ave. seek time
- 4,200 RPM rotational speed

C109 5020 $579

Mac OS COMPATIBLE

MacUser ★★★★ February 1995

# STORAGE MEDIA

## Verbatim.

SONY.

### DAT MEDIA

| | | |
|---|---|---|
| V010 1018 | Verbatim 90M Cartridge | $12 |
| S100 1012 | Sony 90M Cartridge | $12 |
| V010 1043 | Verbatim 120M Cartridge | $29 |
| S104 1008 | Sony 120M Cartridge | $29 |

### OPTICAL MEDIA

| | | |
|---|---|---|
| V010 1021 | Verbatim 1.3GB Optical Cartridge | $85 |
| S100 1005 | Sony 1.3GB Optical Cartridge | $85 |
| V010 1012 | Verbatim 230MB Optical Cartridge | $39 |
| S100 1008 | Sony 230MB Optical Cartridge | $39 |

SyQuest 5 YEAR Warranty* ON CARTRIDGES

### GENUINE SYQUEST CARTRIDGES

| Part Number | Media | Qty 1 | Qty 10 | Qty 20 |
|---|---|---|---|---|
| S198 1010 | 44MB | $43ea | $42ea | $41ea |
| S198 1011 | 88MB | $48ea | $47ea | $46ea |
| S198 1012 | 200MB | $76ea | $74ea | $72ea |
| S198 1013 | 105MB | $51ea | $50ea | $49ea |
| S198 1014 | 270MB | $62ea | $61ea | $60ea |

* Warranty after first year, handled by SyQuest.

# MONITORS

## NEC

### 21" MultiSync XE21

- 21" diagonal flat square technology
- Mac Res: 640 x 480 NI, A1024 x 768 NI
- Energy star compliant for true energy savings
- 13.8" Viewable image size
- Fine 0.28mm dot pitch
- Monitor Manager
- AccuColor, Digital controls

**21" XE21** (N026 1010) ..... $1829
**21" XP21** (N026 1011) ..... 2199

### 15" MultiSync XV15

**Outstanding performance at an affordable price**

- Larger sharper images that are easier to use
- Plug and Polay compatible for real performance advantages
- Energy star compliant for true energy savings
- 15" diagonal flat square technology
- 13.8" Viewable image size
- Mac Res: 1024 x 768 NI
- Fine 0.28mm dot pitch

**14" XV14** (N026 1016) ..... $319
**15" XV15** (N026 1015) ..... $399*
**15" XE15** (N026 1006) ..... $549
**15" XP15** (N026 1005) ..... 599

* After $25 Rebate

### 17" MultiSync XV17

**Large Screen performance at an affordable price**

- Perfect entry level business, small office/home office, home ducation/entertainment
- Fine 0.28mm dot pitch
- FullScan capability
- 17" diagonal flat square technology
- 15.6" Viewable image size
- Mac Res: 1024 x 768 NI
- PC Res: 1280 x 1024 NI
- On-Screen Manager

**17" XV17** (N026 1022) ..... $759
**17" XP17** (N026 1009) ..... 1049

## Apple Newton MessagePad 100

- Manage information, stay in touch with people, and exchange data with your computer
- Send or receive electronic mail, send a fax or "beam" to another Newton MessagePad
- Newton® Recognition Architecture recognizes both printed and cursive handwriting
- Built-in applications that include a notepad, to-do list, datebook, and name file
- Features a fast 20 MHz Processor, improved 4mb ROM and 640K RAM.

NOW BUNDLED WITH A FREE MODEM!

Now Bundled with a Modem and Money Magazine Business Forms

$27.95 value!
Absolutely FREE!

### IntelliColor Display/20e

The Radius IntelliColor Display/20e is part of the next generation in professional two-poge color displays. It delivers unrivaled command of your desktop, from on-the-fly resolution switching to state-of-the-art color temperature control. Combined with Radius' IntelliColor software, it allows you to emulate 3 lighting conditions and user-adjustable color temperature, so you get more accurate color representation.

**MONITORS**

R016 1013 **PressView 21T Display System** (PV2102) 21" Trinitron, 640 x 480 to 1600 x 1200 ..... $3099
R016 1016 **SuperMatch 21•T XL Trinitron** (STD2102) 21" Trinitron, 1600 x 1200 ..... $2075
R016 1009 **IntelliColor Display/20e** (0461) 20" Trinitron, 640 x 480 to 1600 x 1200 ..... $1899
R016 1007 **PrecisionColor Display/17** (0460) 17" Trinitron, 640 x 480 to 1600 x 1200 ..... $959
R016 1030 **PrecisionView 17** (R01705) 17" Trinitron, 1024 x 769 ..... $899

### VideoVision Studio 2.0

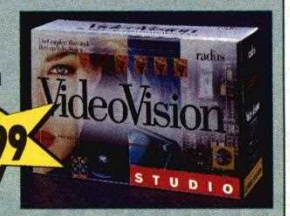
With JPEG hardware compression and decompression for full-screen, full-motion recording and playback from a hard disk, VideoVision Studio combines the power and flexibility of the Macintosh with the ease and transportability of video tape.

radius

A102 1211

PowerMac 8100 Compatible!

$3699




R013 1018 **VideoVision Studio 2.0** (0500) Compatible with the PowerMac 8100 ..... $3699
R013 1020 **VideoVision Studio 2.0** Upgrade (0505) JPEG daughtercard ..... $1759
R013 1026 **SpigotPower AV** (DV1630) Captures full-screen 24-bit color video up to 30 frames/60 fields per sec. ..... $759
R013 1065 **SpigotPro AV** (0514) captures full-screen 24-bit color video up to 30 frames/60 fields per sec ..... $1249

## Thunder Series GRAPHIC ACCELERATORS

**Super Resolution at Earth-Shaking Speed.**

**PowerMac 9500 Compatible PCI Cards**

R013 1069 **PrecisionColor 8/1600** (0529) 8-bit support to 1600 x 1200 ..... $479
R013 1071 **Thunder 30/1600** (0528) 24-bit support to 1600 x 1200 ..... $1149
R013 1070 **Thunder 30/1152** (0538) 24-bit support 1152 x 870 ..... $759
R013 1073 **ThunderColor 30/1600** (0530) 24-bit support to 1600 x 1200 ..... $1999
R013 1072 **ThunderColor 30/1152** (0531) 24-bit support 1152 x 870 ..... $1599

R013 1059 **Thunder IV GX•1600** (0513) 24-bit support to 1600 x 1200 ..... $2799
R013 1060 **Thunder IV GX•1360** (0446) 24-bit support to 1360 x 1024 ..... $2289
R013 1061 **Thunder IV GX•1152** (0485) 24-bit support 1152 x 870 ..... $1899
R013 1062 **Thunder/24 GT** (0491) 24-bit support to 1152 x 870, PhotoEngine optional ..... $1329
R013 1008 **PrecisionColor Pro 24X** (0429) 24-bit color, 640 x 480 to 1152 x 870, 13" to 21" displays ..... $1059
R013 1010 **PrecisionColor Pro 24XK** (0430) 24-bit color, 1024 x 768, 16" and larger displays ..... $749

Three Thunder IV GX cards extend the 24-bit resolution of the PowerMac's built-in-video. Accelerated 24-bit color, built-in Photoshop acceleration, CMYK acceleration, hot-key resolution switching, pan and zoom, color composer and 10-bit DAC add up to make these cards the number one choice for image processing, compositing and illustration.

FREE* ColorComposer software

Adobe charged

*For a limited time, FREE ColorComposer software is included with each Thunder Series card.

**Thunder Series Cards**
**Blow the doors off Power Mac**

as low as $759

# SCANNERS, PRINTERS AND MODEMS

## EPSON

**Epson ES-1200C Pro Mac Scanning System**

***HIGH DETAIL 4800 DPI, 30-BIT COLOR SCANNING MADE AFFORDABLE.***

- 600 x 1200 dpi scanning resolution (up to 4800 dpi via interpolation)
- Epson's TruePass scanning technology
- Scans over ONE BILLION colors
- 8.5" x 11.67" scanning area
- Built-in image processing features
- Increased image quality with 30-bit color scanning

$1269

E045 1003 **Epson ES-1200C Pro-MAC** ..... $1269
E045 1013 **Epson ES-1000C Pro-MAC** ..... $779
E045 1004 **Transparency Unit** ..... $655
E045 1008 **Automatic Document Feeder** ... $465

VISIONEER
**PAPERPORT**
**The fastest way to get paper into your Mac.**
*If it's on paper, it's PaperPort-able!*

The simple, super-small input device that converts your paper documents into electronic ones. With PaperPort's direct links to word processors, OCR software (included!), printers and fax modems, you can file, edit, annotate, print and send your documents directly to others. (V025 1002)

### FAST MAC V.34 FAX AND DATA MODEM

NEW! *FAST MAC V.34* 28.8Kbps External MODEM. 28.8Kbps data modem/14.4Kbps Fax modem with V.42bis/MNP5. Fax and data software and cable for the Macintosh, on-line services, power adapter and telephone cable included.

B030 1007

### Stylus COLOR Inkjet Printer

E047 1012

$529

Now you can print in vivid color with clarity never before possible in a personal color printer. At 360 dpi resolution blacks are blacker and at 720/360 dpi the color output is the sharpest available.

- Incredible 720 dpi color printing, optimized with special coated paper
- 360 dpi black print resolution
- Prints up to 16 million colors
- Serial interface
- Includes Mac driver software and a TWO Year Warranty

# ACCELERATORS

**100 MHz Turbo 601**

100MHz

IN STOCK!

$1499

DAYSTAR DIGITAL

**Compatible with Mac IIci, IIsi, IIvx, and Performa 600**

The Turbo 601 provides the best of both worlds. The Turbo 601 allows you to run your current software up to twice as fast, and it lets your run powerPC accellerated applications at full PowerPC speed - from 7 to 11 times faster!

**DayStar 100 MHz Turbo 601** ..... $1499
Compatible with Mac IIci (D040 1048), IIsi (D040 1050), IIvx/vi/Performa 600 (D040 1052)
**DayStar 100 MHz PowerPro 601** (D040 1043) ..... $1539
Compatible with Quadra 900/950, 700 and other with Quadra style PDS
**DayStar 66 MHz Turbo 601** ..... $989
Compatible with Mac IIci (D040 1039), IIsi (D040 1049), IIvx/vi/Performa 600 (D040 1051)
**DayStar 66 MHz PowerCard 601** (D040 1040) ..... $635
**DayStar Turbo '040** (D040 1018) ..... $769

# CLUBMAC CD-ROM DRIVES

### ClubMac 2X CD-ROM

- 300KB/sec data transfer rate
- 350ms average access time
- Flip Top Lid
- LED light, headphone jack
- Volume control
- Light weight
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$99

C109 9550

### ClubMac 2X CD-ROM

- 300KB/sec data transfer rate
- 320ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$129

C109 9543

### ClubMac 4X CD-ROM

- 600KB/sec data transfer rate
- 190ms average access time
- Caddy-less design
- LED light, headphone jack and RCA jacks
- CharisMac's CD AutoCache driver software
- ONE Year Warranty

$229

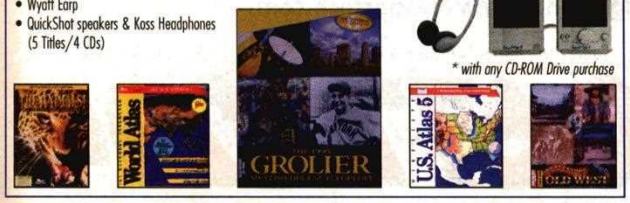
C109 9546

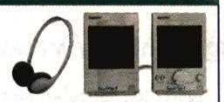
**CD-ROM BUNDLE**

- Grolier1995 Multimedia Encyclopedia
- U.S. Atlas & World Atlas
- San Diego Zoo Animals
- Wyatt Earp
- QuickShot speakers & Koss Headphones (5 Titles/4 CDs)

CLUBMAC CD-ROM BUNDLE $100*

C109 1015



* with any CD-ROM Drive purchase

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# GREAT BUYS

**540MB APS Q 540 $189.95** *Internal Config.*

## WHILE SUPPLIES LAST!

### APS Q 730

- ✔ Up to 700MB formatted capacity
- ✔ Outstanding value! – Only 33¢ per MB
- ✔ 2-year warranty

**$219.95** *Internal configuration*

### APS Q 840

- ✔ Average seek times of 12.2 ms and access times of 22 ms
- ✔ 3-year warranty

**$249.95** *Internal configuration*

### APS Q 540

- ✔ 5400 spindle speed for great performance
- ✔ 3-year warranty

## DISCOVER THE QUANTUM DIFFERENCE WITH APS!

### APS Q 1080

- ✔ Over 1GB formatted capacity
- ✔ Improved 5400 spindle speed makes it a price/performance leader
- ✔ 3-year warranty

**$389.95** *Internal configuration*

**APS PORTABLE DRIVES**

| Model | Capacity | Internal | | **AC ONLY |
|---|---|---|---|---|
| APS Q 341[1] | 326MB | $299.95 | | N/A |
| APS Q 514[1] | 491MB | 379.95 | | N/A |
| APS T 504[1] | 504MB | 379.95 | NEW FROM APS | $479.95* |
| APS T 800[1] | 773MB | 599.95 | NEW FROM APS | 699.95* |

** AC/DC available for $50.00 extra* ***SR 1000 AC only enclosure*

**APS DESKTOP DRIVES**

| Model | Capacity | | Internal | | SR2000 |
|---|---|---|---|---|---|
| APS Q 540[3] Quantum 540 Fireball mechanism | 516MB | MacUser ZD LABS ★★★½ | $189.95 | NEW LOWER PRICE | $269.95 |
| APS Q 730[2] Quantum 730 Lightning mechanism | 699MB | MacUser ZD LABS ★★★★½ | 219.95 | NEW LOWER PRICE | 299.95 |
| APS Q 840[3] Quantum 840 Trailblazer mechanism | 811MB | | 249.95 | NEW LOWER PRICE | 349.95 |
| APS Q 1080[3] Quantum 1080 Fireball mechanism | 1042MB | | 389.95 | | 489.95 |
| APS MS 1.0[5] Micropolis 4210 Mechanism | 1001MB | | 549.95 | | 649.95 |
| APS ST 1.0[5] Seagate ST 31230N Hawk mechanism | 1010MB | MacUser ZD LABS ★★★½ | 499.95 | NEW LOWER PRICE | 599.95 |
| APS Q 1.0[5] Quantum Atlas XP31070 mechanism | 1025MB | MacUser ZD LABS ★★★½ | 699.95 | NEW LOWER PRICE | 799.95 |

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# ON GREAT DRIVES!!!

## APS HIGH-CAPACITY DRIVES

| Model | Capacity | | Internal | SR2000 |
|---|---|---|---|---|
| **APS MS 2.0**[5] Micropolis 4221 mechanism | 1955MB | MacUser ZD LABS 3½ | $899.95 | $999.95 |
| **APS MS 2.0AV**[5] Micropolis 4221AV mechanism | 1955MB | | 999.95 | 1099.95 |
| **APS ST 2.0**[5] Seagate ST 32550N Barracuda | 2047MB | | 999.95 | 1099.95 |
| **APS Q 2.0**[5] Quantum Atlas XP32150 mechanism | 2050MB | MacUser ZD LABS 4 | 899.95 NEW LOWER PRICE | 999.95 |
| **APS MS 4.0**[5] Micropolis 3243 mechanism | 4064MB | MacUser ZD LABS 4 | 1299.95 NEW LOWER PRICE | 1399.95 |
| **APS MS 4.0AV**[5] Micropolis 3243AV mechanism | 4064MB | | 1399.95 NEW LOWER PRICE | 1499.95 |
| **APS ST 4.0**[5] Seagate ST 15150N mechanism | 4094MB | MacUser ZD LABS 3½ | 1499.95 | 1599.95 |
| **APS Q 4.0**[5] Quantum Atlas XP34300 mechanism | 4101MB | | 1399.95 | 1499.95 |
| **APS MS 9.0**[5] Micropolis 1991 mechanism | 8669MB | | 2199.95 NEW LOWER PRICE | *2399.95 |
| **APS MS9.0AV**[5] Micropolis 1991AV mechanism | 8669MB | | 2299.95 NEW LOWER PRICE | *2499.95 |
| **APS ST 9.0**[5] Seagate ST410800N mechanism | 8669MB | MacUser ZD LABS 4 | 2299.95 NEW LOWER PRICE | *2499.95 |

**4.0GB APS MS 4.0**

**$1,299.95** *Internal Config.*

## APS MS 4.0

- ✔ Best performing 4GB drive
- ✔ Optimized for workstations and servers
- ✔ Terrific price/performance value
- ✔ 5-year warranty

## APS MS 9.0

- ✔ Lowest cost per MB in its class
- ✔ Best performance and value in 9GB drives
- ✔ 5-year warranty

**$2,199.95** *Internal configuration*

## GET THE SILICON EXPRESS II MAC FAST SCSI ACCELERATOR CARD FREE! $499.95 VALUE!

**WHEN YOU PURCHASE ONE OF THE ARRAID SYSTEMS SPECIALLY MARKED BELOW***

- ✔ Increase ARRAID performance
- ✔ Add seven SCSI devices

**ARRAID SYSTEMS FROM APS ARE HIGH PERFORMANCE, EASY-TO-USE DISK ARRAY STORAGE SOLUTIONS.**

- ✔ Performance
- ✔ Cost effective value
- ✔ Plug 'n' play convenience
- ✔ 5-year warranty

## APS DISK ARRAYS (Level 0-5)

| Model | Capacity | RAID Level | Price |
|---|---|---|---|
| ARRAID S2/5400[5] | 2GB | 0 (Striped) | $1299.95 |
| ARRAID M1/7200[5] | 1GB | 1 (Mirrored) | 1599.95 |
| ARRAID S2/7200[5] | 2GB | 0 (Striped) | 1599.95 |
| ARRAID M2/7200[5] | 2GB | 1 (Mirrored) | 2399.95 |
| ARRAID S4/7200[5] | 4GB | 0 (Striped) | *2399.95 |
| ARRAID S8/7200[5] | 8GB | 0 (Striped) | *3299.95 |
| ARRAID 58/7200[5] | 8GB | 5 (Parity) | *4999.95 |

## THE APS ADVANTAGE

OPEN 24 HOURS A DAY SEVEN DAYS A WEEK! 24 x7

- ✔ 30-Day No-Hassle MBG
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- ✔ Manufacturer Backed Warranties
- ✔ Factory Direct Quality
- ✔ Rapid Repair Return
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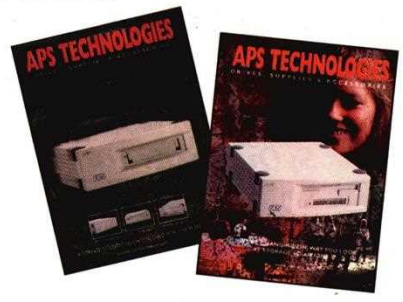
30-DAY MONEY BACK Guarantee TRY IT YOU'LL LIKE IT

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- *Internal drives for Quadra 800 and Centris 610 available*
- *Listed capacities are formatted*
- *Full Height cases include SCSI Sentry FREE!*
- *1-5 Denotes length of manufacturer's warranty in years*

* *External case is special Full Height only*

APS Technologies

# APS...GREAT PRODUCTS.

**APS T 3601**
**$349.95**
*External Config.*

## APS 230 MO

- ✔ Increased performance with new 4500 rpm drive
- ✔ Magneto-Optical provides the best removable media data integrity
- ✔ New low price!

**$499.95**
*External configuration*

| APS MO DRIVES | | | |
|---|---|---|---|
| **Model** | | | **SR2000** |
| **APS 230MB MO²** *New Lower Pricing!* | MacUser ZD LABS ★★★★ | NEW LOWER PRICE | $499.95 |
| **APS 1.3GB MO¹** *New 4MB cache* | NEW FROM APS | NEW LOWER PRICE | 1699.95 |

*1-5 Denotes length of manufacturer's warranty in years*

| *Sony MO Media* | *1-4* | *5-9* | BEST VALUE! *10+* |
|---|---|---|---|
| *128MB cartridge* | *$28.95* | *$26.95* | *$24.95* |
| *230MB cartridge* | *38.95* | *36.95* | *34.95* |
| *1.3GB cartridge* | *88.95* | *86.95* | *84.95* |

*Prices listed are for unformatted media*

| APS SYQUEST DRIVES | | | | |
|---|---|---|---|---|
| **Model** | | | **Capacity** | **SR2000** |
| **APS SQ 3270²** | | MacUser ZD LABS ★★★★ | 255MB NEW LOWER PRICE | $399.95 |
| **APS SQ 5200²** | MacUser RECOMMENDS | MacUser ZD LABS ★★★★½ | 194MB NEW LOWER PRICE | 389.95 |

*1-5 Denotes length of manufacturer's warranty in years*

| *SyQuest Media* | *1-4* | *5-9* | BEST VALUE! *10+* |
|---|---|---|---|
| *SQ-400 (44MB)* | *$42.95* | *$41.95* | *$39.95* |
| *SQ-800 (88MB)* | *48.95* | *47.95* | *45.95* |
| *SQ-2000 (200MB)* | *75.95* | *74.95* | *72.95* |
| *SQ-310 (105MB)* | *55.95* | *54.95* | *52.95* |
| *SQ-327 (270MB)* | *62.95* | *61.95* | *59.95* |

*Prices listed are for unformatted media*

## APS T 3601

- ✔ Easy loading tray...eliminates CD-ROM caddies
- ✔ Average seek time of 102.5 ms
- ✔ Supports sustained reads as high as 580KB per second

*MacUser*
BEST BUY

*"Affordable and fast, the APS T 3601 topped the chart in our MacBench 2.0 CD-ROM Mix test and performed admirably in our application-based test. A competitive price combined with excellent customer-support services turn this speedy drive into a true value."*
*– MacUser September 1995*

| APS CD-ROM DRIVES | | | |
|---|---|---|---|
| **Model** | | | **SR2000** |
| **APS T 3601¹** | **QUAD-SPEED** | MacUser ZD LABS ★★★★½ | $349.95 |

MacUser ZD LABS ★★★★½

MacUser RECOMMENDS

## APS SQ 5200

- ✔ Now reads, writes and formats 44, 88 and 200MB cartridge
- ✔ Ultimate storage flexibility
- ✔ 2-year warranty

**$389.95**
*External configuration*

*Prices and specifications subject to change without notice*

REF. CODE: 307034

# APS TECHNOLOGIES 1-800 677-3294

# PRICELESS SUPPORT!!!

## APS DAT

- ✔ 2GB capacity without compression
- ✔ Up to 4GB capacity with software compression
- ✔ Includes Retrospect v 2.1 FREE!
- ✔ 2-year warranty

**$999.95**

*External configuration*

## APS HyperDAT

- ✔ DDS-2 technology
- ✔ Capacity up to 8GB*
- ✔ Transfer rates up to 28MB per minute
- ✔ Includes Retrospect v 2.1 FREE!
- ✔ 2-year warranty

**$699.95**

*External Config.*

# SAVE UP TO 80%
## ON YOUR SERVER BACKUP TIMES

## APS DLT40

- ✔ Holds up to 40GB with hardware compression
- ✔ Incredible backup speed and reliability
- ✔ Includes Retrospect v 2.1 FREE!
- ✔ 2-year warranty

**$5,999.95**

*External configuration*

Retrospect

RETROSPECT INCLUDED FREE WITH ALL DAT, DLT & HYPERTAPE DRIVES

| APS TAPE DRIVES | | | | |
|---|---|---|---|---|
| **Model** | **Capacity** | | **Internal** | **SR2000** |
| APS HyperTape² | 2GB◆ | | — | $499.95 |
| APS DAT² | 2GB◆ | NEW FROM APS | $649.95 | 699.95 |
| APS ProDAT² | 4GB◆ | | 849.95 | 899.95 |
| APS HyperDAT² | 8GB† | | 949.95 | 999.95 |
| APS DLT40² | 40GB† | NEW FROM APS | — | 5999.95 |

**Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.*
*† 2:1 Hardware data compression.*
*◆ Native capacity without data compression.*
***All APS DAT, DLT & HyperTape drives include Retrospect by Dantz***

| *Tape Media* | *1-4* | *5-9* | *10+* (BEST VALUE!) |
|---|---|---|---|
| *3080XLF (HyperTape) Sony* | *$34.95* | *$33.95* | *$31.95* |
| *60-Meter 3M* | *8.95* | *7.95* | *6.95* |
| *90-Meter 3M* | *9.95* | *8.95* | *7.95* |
| *120-Meter (DDS-2) Sony* | *21.95* | *20.95* | *19.95* |
| *DLT20 Data cartridge* | *45.95* | — | — |
| *DLT20 3PK cartridges* | *119.95* | — | — |

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- Hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. All hard drives from APS Technologies come preformatted with Apple's System 7.0.1 software and APS Technologies' APS POWERTOOLS SCSI formatter/hard disk partitioner.
- All external drive products and cases come with a premium 25 x 50 SCSI cable.
- Toll-free Technical Support hours are 8 am to 8 pm Monday thru Friday, 9 am to 5 pm Saturday, Central Time.
- International customers must pay for all shipping charges.
- Refused orders subject to restocking fee.
- 30-day money-back guarantee • (Excluding opened software). Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty • The warranty length is denoted by the superscripted number next to each drive model. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- All prices and specifications are subject to change without notice.

APS Technologies

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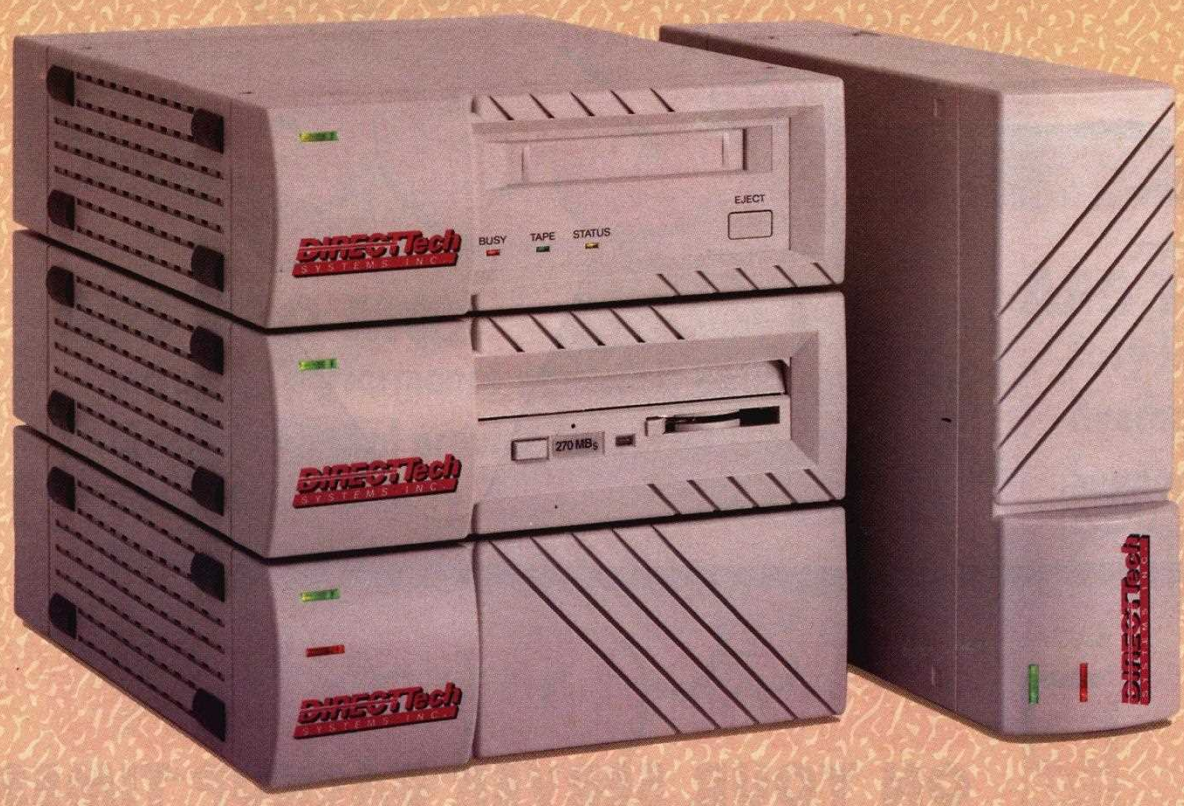
Seagate

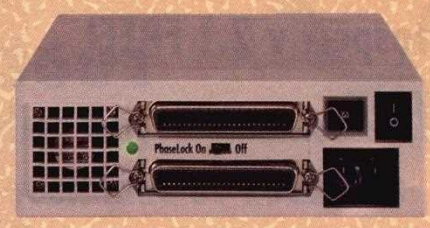
HEWLETT PACKARD

Quantum

SyQuest




Phaser Enclosures can also be set on end.

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ALL DRIVES ARE PREFORMATTED, TESTED AND PACKAGED WITH SCSI MANAGER 4.3 COMPATIBLE DRIVERS. EXTERNAL DRIVES INCLUDE CHOICE OF 25-50 OR 50-50 PIN CABLE.

| Capacity | Model No. | Mechanism | Size | Seek | RPM | Warranty | Internal | PHASER-I |
|---|---|---|---|---|---|---|---|---|
| 365 MB | DT-365LT | Quantum | 3.5" | 11 ms | 4500 | 2 yrs | $139 | $215 |
| 540 MB | DT-540LT | Quantum | 3.5" | 11ms | 4500 | 2 yrs | $195 | $270 |
| 730 MB | DT-730LT | Quantum | 3.5" | 11 ms | 4500 | 2 yrs | $229 | $305 |
| 1.0 GB | DT-1080FB | Quantum | 3.5" | 9.5 ms | 7200 | 5 yrs | $449 | $525 |
| 1.05 GB | DT-31230 | Seagate | 3.5" | 9.0 ms | 5400 | 5 yrs | $515 | $595 |
| 2.0 GB | DT-4221 | Micropolis | 3.5" | 8.5 ms | 7200 | 5 yrs | $895 | $970 |
| 2.0 GB | DT-32150 | Quantum | 3.5" | 8.0 ms | 7200 | 5 yrs | $999 | $1,075 |
| 2.0 GB | DT-2490 | HP | 3.5" | 9.0 ms | 6400 | 5 yrs | $1,099 | $1,175 |
| 2.1 GB | DT-32550 | Seagate Barracuda | 3.5" | 8.0 ms | 7200 | 5 yrs | $989 | $1,065 |
| 2.1 GB | DT-32550W | Seagate Barracuda Wide | 3.5" | 8.0 ms | 7200 | 5 yrs | $1,075 | $1,190 |
| 4.3 GB | DT-3243 | Micropolis | 3.5" | 8.5 ms | 7200 | 5 yrs | $1,395 | $1,470 |
| 4.3 GB | DT-15150 | Seagate Barracuda | 3.5" | 8.0 ms | 7200 | 5 yrs | $1,465 | $1,540 |
| 4.3 GB | DT-15150W | Seagate Barracuda Wide | 3.5" | 8.0 ms | 7200 | 5 yrs | $1,550 | $1,699 |
| 4.3 GB | DT-4280 | Quantum GP | 3.5" | 8.0 ms | 7200 | 5 yrs | $1,159 | $1,235 |
| 9.0 GB | DT-1991 | Micropolis | 5.25" | 12 ms | 5400 | 5 yrs | $2,195 | $2,295 |
| 9.0 GB | DT-410800 | Seagate Elite 9 | 5.25" | 11 ms | 5400 | 5 yrs | $2,215 | $2,315 |

## AUDIO/VIDEO TUNED HARD DRIVES

| Capacity | Model No. | Mechanism | Size | Seek | RPM | Warranty | Internal | PHASER-I |
|---|---|---|---|---|---|---|---|---|
| 1.05 GB | DT-31230AV | Seagate | 3.5" | 9 ms | 5400 | 5 yrs | $515 | $595 |
| 2.0 GB | DT-4221AV | Micropolis | 3.5" | 8.5 ms | 7200 | 5 yrs | $945 | $1,020 |
| 2.1 GB | DT-32550AV | Seagate Barracuda | 3.5" | 8.0 ms | 7200 | 5 yrs | $989 | $1,065 |
| 4.3 GB | DT-3243AV | Micropolis | 3.5" | 8.5 ms | 7200 | 5 yrs | $1,445 | $1,520 |
| 4.3 GB | DT-15150AV | Seagate Barracuda | 3.5" | 8.0 ms | 7200 | 5 yrs | $1,465 | $1,540 |
| 9.0 GB | DT-1991AV | Micropolis | 5.25" | 12 ms | 5400 | 5 yrs | $2,245 | $2,345 |
| 9.0 GB | DT-410800AV | Seagate Elite 9 | 5.25" | 11 ms | 5400 | 5 yrs | $2,215 | $2,315 |

## SYQUEST

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

| Capacity | Model No. | Internal | PHASER-I |
|---|---|---|---|
| 88 MB | SQ5110C | $305 | $365 |
| 200 MB | SQ5200 | $420 | $480 |
| 270 MB | SQ3270 | $420 | $470 |

## TAPE

INCLUDES A FREE COPY OF RETROSPECT AND ONE TAPE

| Capacity | Model No. | Format | PHASER-I |
|---|---|---|---|
| 2 GB | HP-35470 | 4mm | $995 |
| 4-8 GB | Sony-5000 | DDS-2 | $1,165 |
| 4-8 GB | HP-1533A | DDS-2 | $1,360 |
| 5-10 GB | Exabyte-8505 | 8mm | $2,275 |
| 10-20 GB | DLT-2000 | DLT | $3,599 |

## OPTICAL

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

| Capacity | Model No. | Seek | PHASER-I |
|---|---|---|---|
| 230 mb | Fujitsu | 30 ms | $675 |
| 1.3 GB | HP-C1716 | 23 ms | $2,099 |
| 1.3 GB | Maxoptix T-III | 18 ms | $2,199 |

## CD ROM

INCLUDES SOFTWARE

| | |
|---|---|
| JVC Personal Archiver (2X) | $1,699 |
| Call about 4X drives. | |
| **Make Your Own CDs!** Includes Software and Cabling | |

## SPECIAL!!!

**HERE'S YOUR BEST BUY.**

*The Micropolis 2.0 GB with a8.5 ms seek time. and a five year warranty. You can't beat this drive.*

**$899.00**

**ORDER TODAY!**
(Internal Configuration)

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| Capacity | Model No. | Raid Level | External |
|---|---|---|---|
| 2.0 GB | DT-31200-2AR | 0, 1 | $ Call |
| 4.0 GB | DT-32550-2AR | 0, 1 | $ Call |
| 8.0 GB | DT-15150-2AR | 0, 1 | $ Call |

These drives are perfect for Videovision.

## MEDIA

| Type | Price | Type | Price |
|---|---|---|---|
| Syquest 44 | $42 | Optical 128 MB | $26 |
| Syquest 88 | $48 | Optical 230 MB | $30 |
| Syquest 105 | $54 | Optical 1.0 GB | $100 |
| Syquest 200 | $76 | Optical 1.3 GB | $95 |
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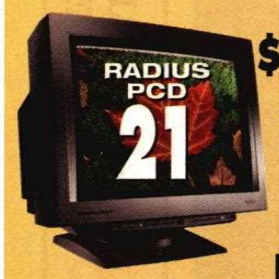


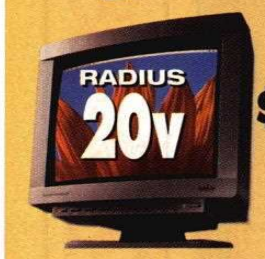

## DISPLAYS

### TWENTY ONE INCH DISPLAYS

Retail $2599

**$1499*** Supports 1600x1200 pixel resolution

**Radius PrecisionColor Display 21**
- 1600x1200 to 1024x768 • Flat screen
- Razor sharp .28 dot pitch Ideal solution for professionals requiring maximum screen area, color accuracy, and sharpness.

*With qualifying videocard, accelerator, or computer purchase

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| SuperMac PressView 21 | $2899 |
| Radius 21 inch Grayscale Display | $799 |
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- "Best Overall Screen Uniformity" – MacUser

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- 1152x870 to 1024x768 • Flat screen
- Shadow Mask Tube • Built in video support

*With qualifying videocard, accelerator, or computer purchase

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|---|---|
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Retail $2399

**$1699*** The #1 Selling 20 inch Trinitron!

**Radius IntelliColor Display 20**
*Limited Quantities!*
- Top rated 20" Trinitron, Best Money Can Buy
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- 1600x1200 to 640x400

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**$699*** Editor's Choice!

**SuperMac/E-Machines T16IIMR**
*Limited Quantities!*
- High Grade Studio Trinitron Series
- .25mm multi-resolution • Editors Choice
- 1024x768 to 640x480 resolutions

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| SuperMatch 17T | $799* |
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**$399** With purchase of video card.

**Radius Color Pivot LE**
We have cards for **SE/30, LC, IIsi,** Nubus, and Quadras

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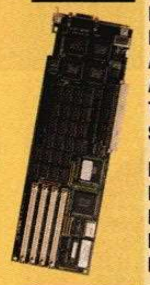
| Grayscale Pivot | $399 |
| Radius Full Page Display | $299 |

## VIDEO CARDS VIDEO CARDS VIDEO CARDS

### 21" RESOLUTIONS



**24 BIT**

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| PCI Cards | $CALL |
| Radius PrecisionColor 24X | $599 |
| Radius PrecisionColor Pro 24X | $699 |
| All Thunder IV's | $CALL |
| All Thunder II's | $CALL |
| Thunder 24 (DSP available) | $899 |
| SuperMac Ultura LX with DSP acceleration | $1299 |
| RasterOps Horizon 24 | $1499 |
| RasterOps 24XLTV | $1499 |
| RasterOps PaintBoard Pro | $899 |
| RasterOps PaintBoard Turbo XL | $799 |
| RasterOps Prism GT | $CALL |

**8 BIT**

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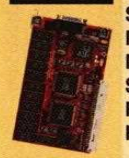
| SuperMac DoubleColor LX | $399 |
| SuperMac Spectrum 8/24 PDQ | $399 |

### 20/19" RESOLUTIONS



**24 BIT**

| | |
|---|---|
| PCI Cards | $CALL |
| SuperMac Spectrum 24 Series V | $599 |
| Radius PrecisionColor 24XK | $499 |
| Radius PrecisionColor Pro 24XK | $599 |
| SuperMac Futura MX | $499 |
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| RasterOps Prism 24 | $CALL |

**8 BIT**

| | |
|---|---|
| SuperMac Spectrum 8 Series III | $199 |

### 17/16" RESOLUTIONS

**24 BIT**

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| Radius PrecisionColor 24XP | $199 |
| Radius PrecisionColor Pro 24XP | $CALL |
| SuperMac Futura SX | $299 |
| SuperMac Futura II SX w/Ethernet | $399 |

### APPLE VIDEO CARDS

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| Apple 8•24 | $CALL |
| Apple 8 Bit | $99 |

## ACCELERATORS

**68040 BLOW OUT! from $299****

| | |
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| Daystar Products | $CALL |
| Radius Rocket 33MHz w/FPU | $399** |
| Radius Rocket 40MHz w/FPU | $499** |
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| SCSI II Booster (up to 4x faster) | $249 |
| PhotoBooster for Rocket | $299 |
| RocketShare | $299 |

**With purchase of any Rocket peripheral

## 24 BIT VIDEO

**RADIUS/SUPERMAC/APPLE**

**Grab 'em while supplies last!**

*Stop wasting valuable time and money waiting on slow screen redraw! Upgrade your Mac or PowerMac to ACCELERATED PHOTO-REALISTIC 24-bit video performance!*

**Radius PhotoBooster** $199 Retail $999

- Twin AT&T 3210 66MHz DSPs
- Accelerates Photoshop Filters
- Up to 10x faster than a Quadra 950
- MacUser Editor's Choice

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|---|---|
| Photoshop Deluxe Edition | $299 |
| Thunder DSP daughterboard | $299 |
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**Radius PowerView** $199

Allows most PowerBooks and the Classic II to support displays and projectors.

| | |
|---|---|
| SuperMac SuperView | $299 |

Similar to Radius PowerView but also supports TV!

| | |
|---|---|
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Allows big screen TV use with LC series, Performa, Quadra, or Color Classic!

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*Full Motion Video – Lowest Price Ever!*

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| TrueVision Targa 2000 | $CALL |
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| MacRecorder | $149 |
| Adobe Premiere | $99** |

**With computer or video purchase *With purchase of Premiere

**from $199**

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*"Never before has Apple offered so much performance for so little money"* MW ★★★★
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**TABLOID LASER PRINTER**

**QMS 860 Hammerhead 600-1200 dpi**

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- PostScript Level 2
- 8ppm heavy-duty Canon engine

from **$1999**

| | |
|---|---|
| Xante Accel-A-Writer 8200 | $CALL |
| QMS Color Laser-all models | $CALL |
| Hewlett-Packard 4MV | $CALL |
| GCC SelectPress 1200 | $4999 |

- 1 year factory warranty • true 1200x1200 dpi resolution for camera ready output • 12"x19" tabloid printing • 270MB internal hard disk • 285 PostScript fonts

MacUser ★★★★½ *"Best Output" – MacUser* *" Consistently good output" – Seybold Reports*

**GCC WriteMove II** $199*

MacUser ★★★★½ • *MacUser— 4 1/2 mice* • *MacWeek — ★★★★* *portable printer only* **with CPU purchase*

**LaserWriter** OEM Apple PostScript $499

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|---|---|
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| Grab this one! *Dealer Cost $9290* | |
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| Mac SE 1/20 | $299 |
| Mac Classic 2/40 | $499 |
| Mac II 0/0 | $299 |
| Mac IIcx 0/0 | $499 |
| Mac IIci 0/0 | $699 |
| Mac IIsi 5/80 | $699 |
| Quadra 700, 900, 950 | $CALL |
| Quadra 800, 840AV | $CALL |
| PowerMacs | $CALL |
| All other CPU's | $CALL |

### Cards-Network

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|---|---|
| Apple Token Talk 1/4-4/16 | $299/$499 |
| DCA Mac Irma 3270 | $499 |
| DCA Mac Irma 3270 for SE | $499 |
| EtherNet boards for SE/SE30 | $99 |
| EtherNet LC thin coax | $99 |
| Shiva FastPath 4 Gateway | $999 |

### Cards-Misc.

| | |
|---|---|
| Apple IIe emulation for LC | $149 |
| Apple IIci cache card | $99 |
| Apple serial Nubus card | $199 |
| IIsi Nubus or PDS adapter card | $99 |
| PLI Quick SCSI Nubus card | $299 |
| Orange Micro 286 board | $199 |

### Cards-Video

| | |
|---|---|
| Apple 8•24 GC | $449 |
| Apple 8•24 | $399 |
| Apple 8 bit for 13"-14" | $199 |
| Apple Portrait/Two Page | $149/$249 |
| RasterOps 104 24bit TPD | $299 |
| RasterOps 24XLi | $799 |
| RasterOps 24L with 801 | $699 |
| RasterOps 708+ 8bit for 20" | $299 |
| RasterOps 24XLTV | $2399 |
| SuperMac Spectrum 24bit for 20" | $599 |
| E-Machines Colorlink EX/T | $299 |
| E-Machines Colorlink SX/T | $499 |
| E-Machines T19 Card for SE/30/IIsi | $299 |

### Drives

| | |
|---|---|
| Apple 5.25 Ext. PC drive w/SE or Nubus | $99 |
| PowerBook 20mb/40mb/80mb | $89/$129/$199 |
| Dayna 360k/1.2mb-740K/1.44mb | $499 |
| Exabyte 8mm 5gb tape backup | $1299 |
| Maxtor 800mb WORM drive | $499 |
| NEC CDR 72/73/74 CD drive | $199/$299/$399 |
| Ricoh HyperSpace 600mb Read/Optical | $1799 |

### Input/Output

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| Apple Scanner | $499 |
| HP Scanjet | $399 |
| Howtek ScanMaster III+ | $2999 |
| Mirrus Film Recorder | $2999 |
| Voice Navigator II | $499 |

### Monitors

| | |
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| Apple 15" FPD Mono/Grayscale | $449 |
| Apple 21" TPD Mono/Grayscale | $999 |
| E-Machine ColorPage 15 with Card | $499 |

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| All Logic Board Upgrades | $Call |
| Mac SE FDHD Upgrade | $349 |
| Mac II FDHD Upgrade | $399 |
| QMS 4mb upgrade, Model 100 legal pack | $499 |

### Miscellaneous

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| Apple IWII/LQ cut sheet feeder | $99/$149 |
| Apple LQ bin expansion | $79 |
| Apple universal monitor stand | $49 |

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| Apple ImageWriter LQ | $449 |
| Apple ImageWriter I wide carriage | $269 |
| Apple LaserWriter 8ppm Postcript | $499 |
| Apple LaserWriter IInt/ntx | $799/$999 |
| LaserMax 800, 135 fonts | $2499 |
| Mitsubishi G370-10u 300dpi Color | $1999 |
| Newgen Turbo PS400 | $1099 |
| QMS ColorScript 100 Model 10 | $1999 |
| QMS ColorScript 100 Model 30 11x17 | $2999 |
| Qume Script Ten (white write) | $1399 |
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| 4 X 8 X 70NS MEMORY UPGRADE | 140 |
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| 4 X 8 X 80NS II/IIX UPGRADE | 149 |
| 4 X 8 X 80NS MEMORY UPGRADE | 138 |
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| TURBO 040I 33MHZ W/CACHE NO FPU | 609 |
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| 128K CACHE IISI W/ADPTR | 155 |
| 128K CACHE IISI/FPU/ADPTR | 209 |
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| 512K CACHE | 249 |
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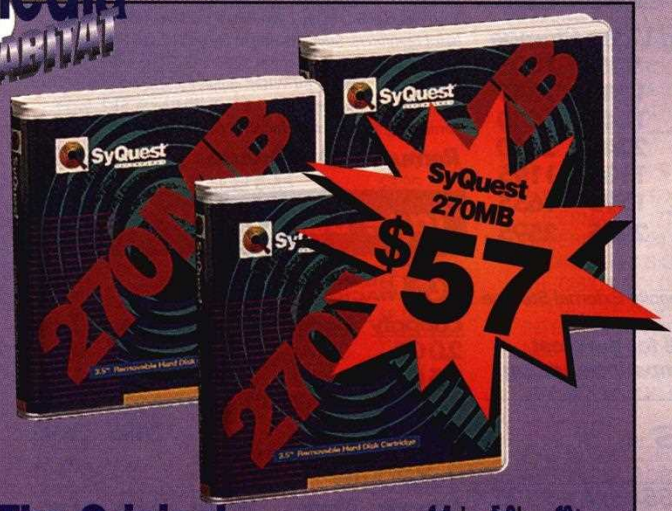


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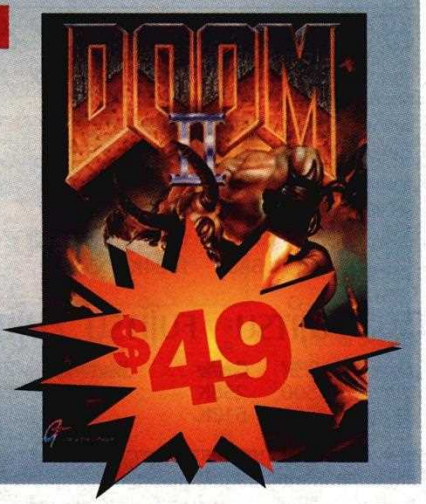


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| SONY | CDU55 | 235/275 |
| 280ms access time, 300Kb/sec transfer rate | | |
| NEC | 3Xp | na/398 |
| 240ms access time, 500Kb/sec transfer rate, 1 Year Warranty | | |
| Sanyo | QuadSpeed | 240/280 |
| 220ms access time, 500Kb/sec transfer rate, 1 Year Warranty | | |
| Toshiba | QuadSpeed | 340/380 |
| 120ms access time, 600Kb/sec transfer rate, 256K,1 Year Warranty | | |
| NEC | 6Xe | na/595 |
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|---|---|---|---|---|
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| | Capacity | | Access | Warranty | Ext. |
|---|---|---|---|---|---|
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| MaxOptics | 1.3 GB | Tahitti III | 18ms | 1Year | 2395 |
| Fujitsu | 230 MB | M2512 | 30ms | 1Year | 575 |

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## NEW Quantum Quantum Quantum

| | Capacity | Seek | RPM | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| Lightning | 365 MB | 11 ms | 4500 | 128K | 2 Year | 135 | 195 |
| Trailblazer | 420 MB | 14 ms | 4500 | 128K | 3 Year | 180 | 240 |
| DSP3053 | 535 MB | 9 ms | 5400 | 512K | 5 Year | 220 | 280 |
| Maverick | 540 MB | 14 ms | 3600 | 128K | 2 Year | 185 | 245 |
| Fireball | 540 MB | 11 ms | 5400 | 128K | 3 Year | 195 | 255 |
| Lightning | 730 MB | 11 ms | 5400 | 128K | 2 Year | 250 | 310 |
| Trailblazer | 850 MB | 14 ms | 4500 | 128K | 3 Year | 275 | 335 |
| Fireball | 1080 MB | 11 ms | 4500 | 128K | 3 Year | 390 | 450 |
| Capella | 2.0 GB | 8.5ms | 5400 | 1024K | 5 Year | 775 | 835 |
| Atlas Series | 2.0 GB | 9ms | 7200 | 1024K | 5 Year | 915 | 975 |
| Grand Prix | 4200 MB | 8.6 ms | 7200 | 512K | 5 Year | 1085 | 1145 |
| Atlas Series | 4.3 GB | 9ms | 7200 | 2048K | 5 Year | 1495 | 1555 |

| | Capacity | Size | Seek | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| Daytona | 256 MB Powerbook | 2..5" | 17 ms | 128K | 1 Year | 215 | 275 |
| Daytona | 341 MB Powerbook | 2..5" | 17 ms | 128K | 1 Year | 295 | 355 |
| Daytona | 514 MB Powerbook | 2..5" | 17 ms | 128K | 1 Year | 375 | 435 |

*5 Year Advance Replacement*

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| | Capacity | Access | RPM | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| M4221 | 2.1 GB | 8.5 ms | 7200 | 512K | 5 Year | 890 | 950 |
| M4221Wide | 2.1 GB | 8.5 ms | 7200 | 512K | 5 Year | 1080 | 1140 |
| M1936 | 3.6 GB | 11 ms | 5400 | 512K | 5 Year | 1195 | 1295 |
| M3243 | 4.3 GB | 8.5 ms | 7200 | 512K | 5 Year | 1385 | 1465 |
| M3243Wide | 4.3 GB | 8.5 ms | 7200 | 512K | 5 Year | 1475 | 1535 |
| M1991 | 9.0 GB | 12 ms | 5400 | 512K | 5 Year | 2190 | 2290 |
| M1991Wide | 9.0 GB | 12 ms | 5400 | 512K | 5 Year | 2295 | 2395 |

### Direct to Disk Recording AV Drives- BEST for Music and Video Storage

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|---|---|---|---|---|---|---|---|
| M4221AV | 2.1 GB | 8.5 ms | 7200 | 512K | 5 Year | 945 | 1005 |
| M1936AV | 3.6 GB | 11 ms | 5400 | 512K | 5 Year | 1245 | 1345 |
| M3243AV | 4.3 GB | 8.5 ms | 7200 | 512K | 5 Year | 1440 | 1500 |
| M1991AV | 9.0 GB | 12 ms | 5400 | 512K | 5 Year | 2240 | 2340 |
| M4221WideAV | 2.1 GB | 8.5 ms | 7200 | 512K | 5 Year | 1135 | 1195 |
| M3243WideAV | 4.3 GB | 8.5 ms | 7200 | 512K | 5 Year | 1595 | 1655 |
| M1991WideAV | 9.0 GB | 12 ms | 5400 | 512K | 5 Year | 2495 | 2595 |

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|---|---|---|---|---|---|---|
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M1991, 5400RPM, 12ms seek, 512K cache, 5 year warranty

## Seagate Seagate Seagate Seagate

| | Capacity | Seek | RPM | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| Hawk 2LP | 1.2 GB ST31230N | 9ms | 5400 | 512K | 5 Year | 515 | 575 |
| Hawk 4 | 4.2 GB ST15230N | 9ms | 5400 | 512K | 5 Year | 1135 | 1195 |
| Barracuda 2LP | 2.5 GB ST32550N | 8ms | 7200 | 1024K | 5 Year | 1050 | 1110 |
| Barracuda 4 | 4.2 GB ST15150N | 8ms | 7200 | 1024K | 5 Year | 1495 | 1555 |
| Barracuda 2Wide | 2.5 GB ST32550Wide | 8ms | 7200 | 1024K | 5 Year | 1125 | 1195 |
| Barracuda 4Wide | 4.2 GB ST15150Wide | 8ms | 7200 | 1024K | 5 Year | 1590 | 1650 |
| Elite 9 | 9.0 GB ST410800N | 11ms | 5400 | 1024K | 5 Year | 2375 | 2475 |

## FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU

| | Capacity | Seek | RPM | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| M2684 | 530 MB | 9ms | 4500 | 256K | 3 Year | 200 | 260 |
| M1606SA | 1.2 GB | 9ms | 4500 | 512K | 3 Year | 410 | 470 |

## HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD

| | Capacity | Access | RPM | Cache | Warranty | Int. | Ext. |
|---|---|---|---|---|---|---|---|
| C3784SE | 1.2 GB | 9.5 ms | 5400 | 512K | 5 Year | 550 | 610 |
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| Capacity | Seek | RPM | Int. | Ext. |
|---|---|---|---|---|
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| Capacity | Model | Media | Int. | Ext. |
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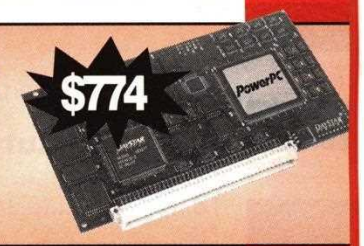

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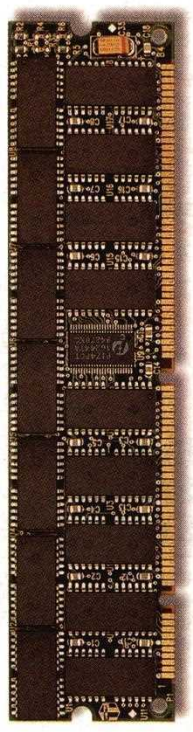

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# Mac Networking Solutions

## All-in-One Modular LAN/WAN Router!

- ✔• LocalTalk - Ethernet router
- ✔• Ethernet - Ethernet router
- ✔• High Speed WAN router (56K-T1)
- ✔• Dial Up SW56/ISDN router

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- Expandable to 6 WANs & 2 Ethernets.

**ComTalk HX**

*Port Options- Ethernet (2 max); WAN/LocalTalk (6 max)*

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- Lowest cost per LocalTalk router connection.
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**ComTalk HF for $1500!**

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| QuadDoubler | 68040 | 40MHz | Centris 610 | $249 | $399 |
| Speedster | 68040 | 40MHz | Mac IIci, IIx*, IIsi*, IIcx* (Adapter*) | $399 | $599 |
| Presto LC | 68040 | 25MHz | Mac LC, LC II, Performa 400-430 | | $299 |
| LC II Doubler | 68030 | 33MHz | Mac LC II, Performa 400-430 | | $149 |
| LC Booster | 68020 | 25MHz | Mac LC | | $99 |
| Allegro | 68030 | 25MHz | Mac SE, Classic | $199 | $249 |
| Mac II Doubler | 68030 | 33MHz | Mac II, IIx, SE/30 | $189 | $229 |
| FPU(w/LC040 trade-in) | 68040 | 25MHz | Quadra 605,Centris 610,650,LC475 | | $149 |
| FPU(w/LC040 trade-in) | 68040 | 33MHz | LC/Performa 570 series & 630 series | | $249 |
| FPU & Speed Boost | 68040 | 33MHz | PowerBook 280,520,540 (installed) | | $449 |
| FPU | 68882 | 16-33M | LC/II/III, Clr Classic, Dock, IIsi, etc. | | $49 |
| PMMU w/MODE32 | 68851 | 16MHz | Mac II | $99 | |
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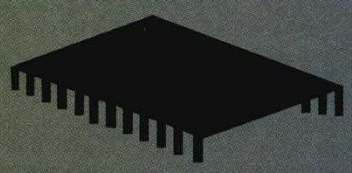

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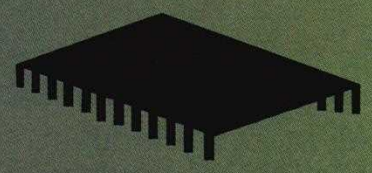

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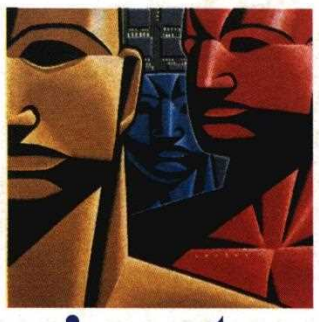

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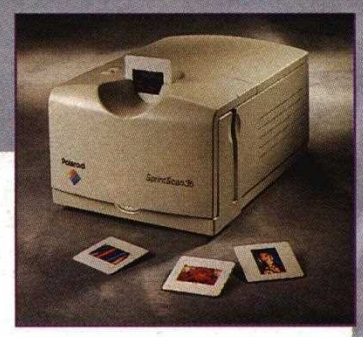

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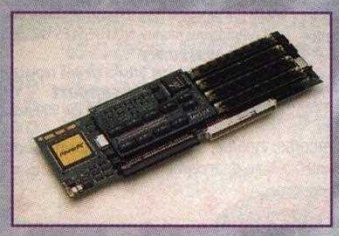

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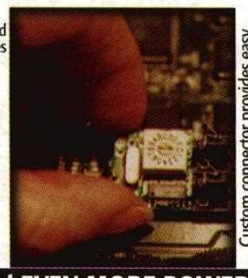

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| 7200/75 8/500/CD | $1679 |
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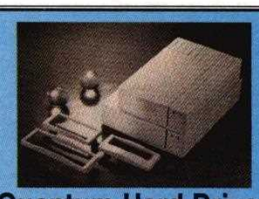

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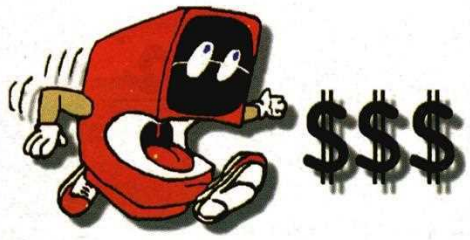


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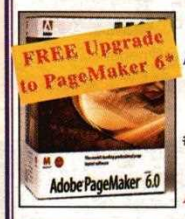


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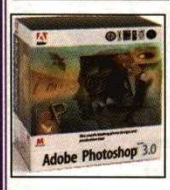


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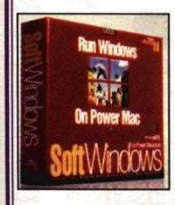


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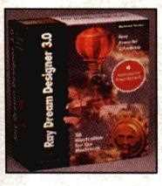


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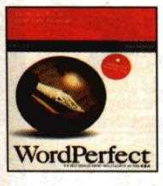


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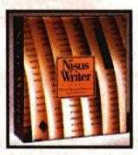


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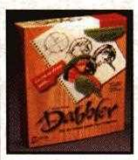


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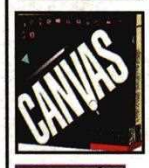


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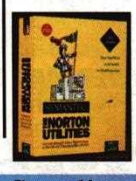


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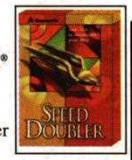


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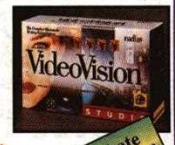


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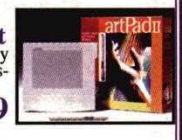


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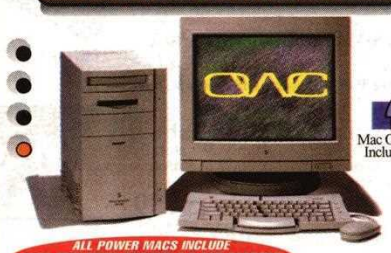


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| COLOR STYLEWRITER PRO | 444 |

**POWER PC 9500 NEW!**

| | | |
|---|---|---|
| 9500/120 | 16/1000-CD | 4444 |
| 9500/120 | 48/2000-CD | 6375 |
| 9500/132 | 16/2000-CD | 4995 |
| 9500/132 | 48/2000-CD | 6495 |
| 7200 / 7500 / 8500 • COMING SOON | | |

**POWER BOOKS**

| | | |
|---|---|---|
| 520 | 4/160 | 1550 |
| 520 | 8/320 | 1850 |
| 520C | 8/160 | 1995 |
| 520C | 12/320 | 2295 |
| 540 | 12/240 | 2495 |
| 540 | 20/320 | 2840 |
| 540 | 36/500 | 3500 |
| 540C | 12/320 | 3095 |
| 540C | 20/500 | 3450 |
| 540C | 36/800 | 4195 |
| 145B | 8/80REF MODEM | 899 |
| 145B | 8/320REF MODEM | 1095 |
| 180 | 8/240REF | 1850 |
| 180 | 12/320REF | 1995 |

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- 4.0GB internal hard drive
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- Radius Thunder Color 30-1600
- Multifunctional SyQuest 200 /Sony 650 optical w/ SyQuest 200 cartridge, 650MB optical cartridge
- Umax PowerLook 1200 dpi color flatbed scanner w/full Photoshop
- GCC XL 808 Laser Printer, 800x 800 dpi, 11"x17", Ethernet
- Two GCC toner cartridges
- Wacom 12x18 Graphics Tablet Electrostatic
- SuperMicro Extended Services

**8100 Systems** — 8100/80 Superstation

0 Down! $228 per month

CPU Starting at $2599

$7.49 a day!

- PowerPC 8100/80MHZ
- Internal CD ROM
- 40MB RAM
- 2.1GB internal hard drive
- Extended keyboard
- Apple 17" Trinitron monitor
- Radius Thunder 24 video card
- dsc 12000c, 9600x9600 dpi color flatbed scanner
- TI MicroLaser PowerPro, 600 dpi, 8.5" x 11", 12 ppm printer w/ 2 AppleTalk connectors
- Wacom 12x12 Graphics Tablet
- SuperMicro Extended Services

**Sale!** 8100/110 ONLY $2999!

FREE! Apple CD-300 Dual Speed CD ROM with every system lease!

| CPU/XKey/Mouse | Monitor/Card | Cash | Lease | |
|---|---|---|---|---|
| 9500/120 /80/4.3GB/CD | Sony 20" /4MB VRAM | $9599 | $249 | SALE |
| 8100/110 /72/2.0GB/CD | Sony 17" /Thunder 24 | $8049 | $184 | |
| 8100/110 /16/2.0GB/CD | None/Thunder 24 | $5299 | $121 | SALE |
| 8100/80AV /72/540/CD | Sony 17" /Thunder 24 | $7499 | $171 | |
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| 7100/80 /40/700/CD | Sony 20" /Thunder 24 | $7295 | $167 | |
| 6100/66 /24/540 | 14" hi-res color monitor | $2575 | $58 | |
| Q800 8/250 | 14" hi-res color monitor | $1999 | $45 | 1 Left! |

## SyQuest Cartridges

Nomai 44MB Cartridges 10 for $250!

LOW Prices

| Cartridges | | Price | |
|---|---|---|---|
| 270MB Cartridges | (5 + or with drive purchase) | $56 | |
| 200MB Cartridges | (5 + or with drive purchase) | $70 | |
| 105MB Cartridges | (5 + or with drive purchase) | $48 | |
| **88MB Cartridges** | (5 + or with drive purchase) | **$37 /45** | SALE |
| **44MB Cartridges** | (5 + or with drive purchase) | **$29 /39** | SALE |

## Optical Cartridges

Sony 1.3GB Cartridges $85!

FREE! Sony Video Tape with any 10 Sony Cartridges

| 3.5" Optical | Price | |
|---|---|---|
| DSC 128MB | $17 | |
| **DSC 230MB** | **$25** | SALE |
| Komag 128MB | $24 | |
| Komag 230MB | $28 | |
| Sony 128MB | $29 | |
| Sony 230MB | $39 | |
| **Verbatim 128MB** | **$18** | SALE |

| 5.25" Optical | Price | |
|---|---|---|
| Sony 600/650MB | $75 | |
| DSC 600/650MB | $59 | |
| Komag 600/650MB | $69 | |
| Tahiti II 1.0GB | $159 | |
| Komag 1.0GB | $81 | SALE |
| **Philips 1.3GB** | **$69** | SALE |
| dsc 1.2/1.3GB | $79 | |
| Maxoptix 1.2 /1.3GB | $83 | |
| **Sony 1.2 /1.3GB** | **$85** | SALE |

| Tape Cartridges | Price | |
|---|---|---|
| **Sony DAT 90m** | **$12** | SALE |
| Sony DAT 120m | $24 | |
| Maxell 8mm 112m | $21 | |
| Sony 6250 | $25 | |
| Sony 6525 | $29 | |

## Monitors

Apple 15" Color Monitor $399!

- Super Fine Pitch Trinitron Tube
- 15" diagonal screen
- 1280 x 1024 resolution
- .25mm aperture grille pitch
- Flat, anti-glare screen
- Color temperature adjustable from 5000° to 9300°K

| Monitor | Resolution | Price | |
|---|---|---|---|
| Sony 1425 | 14in, .25mm, 1024x768 | $321 | |
| Sony 15SF | 15in, .25mm, 1024x768 | $439 | |
| **Sony 17SF** | **17in, .25mm, 1024x768** | **$859** | SALE |
| Sony 20SE | 20in, .25mm, 1280x1024 | $1889 | |
| NEC 17XE | 17in, .25mm, 1280x1024 | $979 | |
| **Apple 15** | **15in, .25mm, 1024x768** | **$399** | SALE |
| Apple 17 | 17in, .26mm, 1024x768 | $799 | |
| Radius 21 | 21in, .31mm, 1600x1200 | $2069 | |

## Video Cards

radius

| Video Cards | Resolution | Price | |
|---|---|---|---|
| Radius Spectrum 24 Series V | 1024x768 | $399 | |
| **Radius Thunder 24 Series IV** | **1024x768** | **$799** | SALE |
| Radius Spectrum Power, 1152 | 1152x870 | $1138 | |
| Radius Thunder II Series IV GX 1152 | 1152x870 | $1819 | |
| Radius Thunder II Series IV GX 1360 | 1360x1024 | $2239 | |
| **Radius Thunder II Series IV GX 1600** | **1600x1200** | **$2769** | SALE |

## Optical Drives

FREE! $129 Value! Global Village Teleport Bronze with every optical drive purchase!

Olympus 128 $319!

| Model | Capacity | Size | External | dsc Turbo | |
|---|---|---|---|---|---|
| **Olympus 128** | **128MB** | **3.5"** | **$319** | **$369** | 5 Left! |
| **Panasonic 128** | **128MB** | **3.5"** | **$299** | **$349** | SALE |
| Fujitsu-230 | 230MB | 3.5" | $569 | $619 | |
| Most-256 | 256MB | 3.5" | $399 | $449 | |
| **Ricoh 650** | **650MB** | **5.25"** | **$899** | **$949** | 2 Left! |
| **Sony 650** | **650MB** | **5.25"** | **$999** | **$1049** | SALE |
| MaxOptix-TII | 1.0GB | 5.25" | $1299 | $1349 | |
| MaxOptix-TIII | 1.3GB | 5.25" | $1989 | $2039 | |
| Ricoh 1.3GB | 1.3GB | 5.25" | $1599 | $1649 | |
| Sony 1.3GB | 1.3GB | 5.25" | $1699 | $1749 | |

*Includes external drive, 25/50 SCSI cable, Mac SW & terminator.*

## Tape Drives

Sony SDT-5000 $939!

- Built in data compression
- 16GB per 120 meter tape

FREE! 72 hour Replacement with any tape drive purchase!

| Model | Capacity | Size | MacKit | dsc Turbo | |
|---|---|---|---|---|---|
| Sony SDT-2000 | 2GB | 3.5"HH | $689 | $739 | |
| **Sony SDT-5000** | **5-16GB** | **3.5"HH** | **$889** | **$939** | SALE |
| Exabyte 8200 | 2GB | 5.25"FH | $1199 | $1249 | |
| Exabyte 8500 XL | 5GB | 5.25"FH | $1899 | $1949 | |

*Includes external drive, 25/50 SCSI Cable, MAC SW II and terminator. Turbo version includes Retrospect.*

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- 24-bit color
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Umax Vista S8 Pro $919!

| Scanner | Description | Price | |
|---|---|---|---|
| **DSC 6000c** | **600 dpi flatbed w/PS LE** | **$449** | SALE |
| DSC 12000C w/trans | 1200 dpi flatbed w/PS LE | $949 | SALE |
| **Agfa StudioScan IIsi** | **800 dpi flatbed** | **$829** | |
| Umax PowerLook | 1200 dpi flatbed | $2469 | |
| **Umax Vista S8 Pro** | **800 dpi flatbed** | **$919** | 1 Left! |
| **Nikon CoolScan** | **2700 dpi slide** | **$1369** | |
| **Scanmaker 35t** | **1800 dpi slide** | **$899** | |

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SyQuest 200MB $345!

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- 5.25" format
- Compatible with 44/88/200MB cartridges
- Meets imaging and publishing storage requirements

| Model | Internal | External | dsc Turbo | |
|---|---|---|---|---|
| SyQuest 270 | $360 | $400 | $425 | SALE |
| **SyQuest 200** | **$345** | **$385** | **$410** | |
| SyQuest 105 | $105 | $145 | $170 | |
| SyQuest 88C | $250 | $290 | $315 | |
| SyQuest 44 | $130 | $160 | $185 | |

*Includes external drive, 25/50 SCSI cable, Mac SW, terminator.*

## Hard Drives

Seagate Elite 3 Turbo $1299!

DSC Turbo Drives

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- Active terminator FREE!
- FWB FREE!

| Quantum | Speed | Internal | External | dsc Turbo | |
|---|---|---|---|---|---|
| GO256MB | 17ms | $184 | $274 | $299 | SALE |
| **G0512MB** | **17ms** | **$374** | **$454** | **$479** | SALE |
| **42MB** | **10ms** | **$59** | **$119** | **$144** | |
| 270MB | 10ms | $140 | $200 | $225 | |
| 365MB | 10ms | $145 | $205 | $230 | |
| 540MB | 10ms | $185 | $245 | $270 | |
| 730MB | 10ms | $215 | $275 | $300 | |
| 1.0GB | 10ms | $338 | $405 | $423 | |
| 1.4GB | 9.5ms | $659 | $719 | $744 | |
| 2.1GB | 9.5ms | $790 | $850 | $875 | SALE |
| **4.2GB** | **9.5ms** | **$1079** | **$1139** | **$1164** | SALE |

| Conner | Speed | Internal | External | dsc Turbo | |
|---|---|---|---|---|---|
| **1.0GB** | **10ms** | **$435** | **$495** | **$520** | SALE |

| Hewlett Packard | Speed | Internal | External | dsc Turbo | |
|---|---|---|---|---|---|
| **2.0GB** | **8.5ms** | **$1085** | **$1145** | **$1170** | SALE |

| Seagate | Speed | Internal | External | dsc Turbo | |
|---|---|---|---|---|---|
| 1.0GB | Hawk 1, 9ms | $509 | $569 | $619 | |
| 2.4GB | Hawk 2, 9ms | $839 | $899 | $949 | |
| 2.4GB | B'cuda 2, 9ms | $1039 | $1099 | $1149 | SALE |
| **3.0GB** | **Elite 3, 9ms** | **$1189** | **$1249** | **$1299** | SALE |
| **9.1GB** | **Elite 9, IIms** | **$2209** | **$2309** | **$2359** | 3 Left! |

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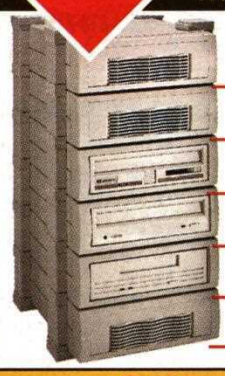


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| Trackball ADB | $43.99 |

Stack It!
## Hard Drives

| Quantum | Int. | Ext. |
|---|---|---|
| **2.5" Quantum Portable** | | |
| 256 MB Daytona | $228 | $278 |
| 341 MB Daytona | $289 | $339 |
| 514 MB Daytona | $385 | $438 |
| **3.5" Quantum Drives** | | |
| 365 MB Lightning | $124 | $179 |
| 420 MB TrailBlazer | $184 | $234 |
| 540 MB Lightning | $190 | $240 |
| 540 MB FireBall | $194 | $244 |
| 730 MB Lightning | $229 | $289 |
| 850 MB TrailBlazer | $254 | $304 |
| 1080 MB FireBall | $389 | $439 |
| 1075 MB Atlas | $689 | $739 |
| 2150 MB Atlas | $895 | $945 |
| 2216 MB Capella | $789 | $839 |
| 2150 Grand Prix | $875 | $925 |
| 4300 MB Atlas | $1,399 | $1,449 |
| 4300 MB Grand Prix | $1,089 | $1,149 |
| FUJITSU | | |
| **3.5" Fujitsu Drives** | | |
| 530 MB M2684SAU | $184 | $235 |
| 1.08 GB M1606SAU | $460 | $480 |
| 2.1 GB M2915SAU | $895 | $945 |
| **Fujitsu Magneto Optical Drives** | | |
| 230 MB M2512 | $489 | $599 |
| **Magneto Optical Formatted Media** | | |
| Qty. 1-4 | $32.00 ea. | |
| 5 or more | $30.00 ea. | |
| SyQuest | | |
| **SyQuest Drives (2 year warranty)** | | |
| 5.25" 200 MB Incl For Cart | $424 | $464 |
| 3.25" 270 MB Incl For Cart | $424 | $464 |
| **SyQuest Cartridges(5 year warranty)** | | |
| 200 MB Pre Formatted | $73.50 | |
| 270 MB Pre Formatted | $58.00 | |
| **Nomai Cartridges(5 year warranty)** | | |
| 44 MB Pre Formatted | $32.99 | |
| 88 MB Pre Formatted | $37.99 | |
| Seagate | | |
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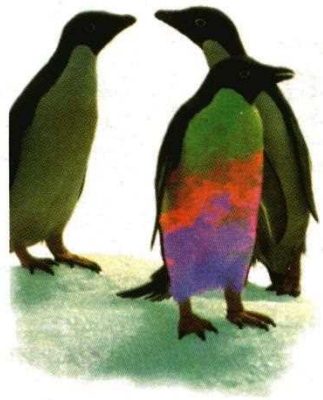

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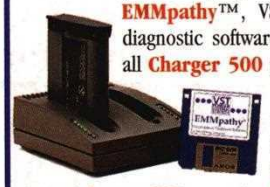

**EMMpathy**™, VST's smart battery diagnostic software, is included with all **Charger 500** purchases. Get the **VST Charger 500** and **EMMpathy** software bundled with either a **VST Auto Adapter 500** or an **Apple AC adapter** at a special price! **Very Fast! Very Smart!**

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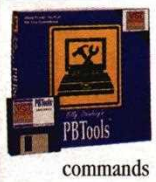

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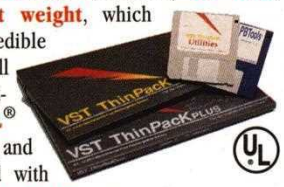

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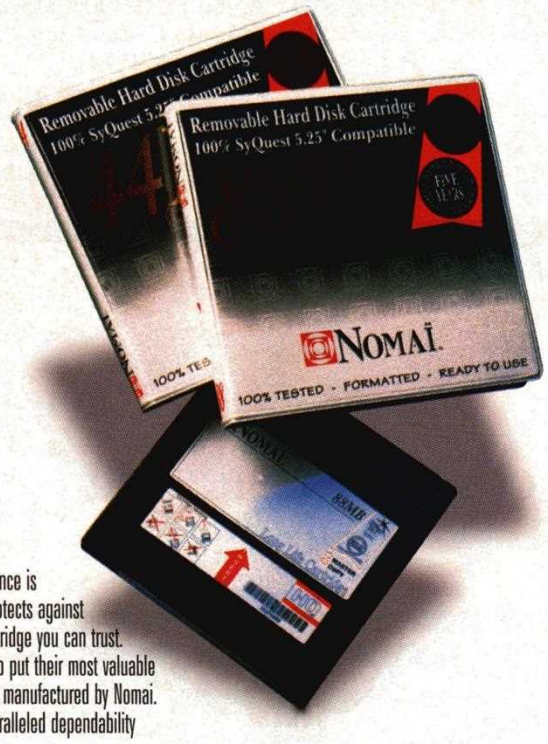


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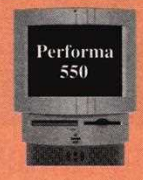


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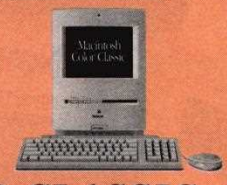


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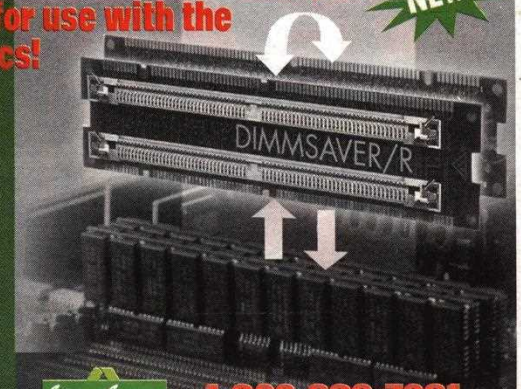


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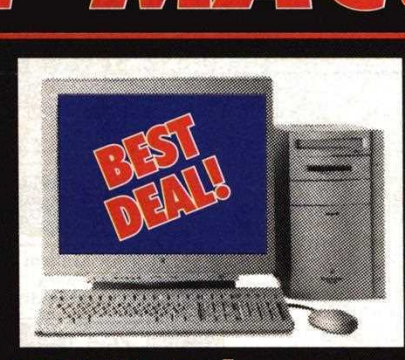


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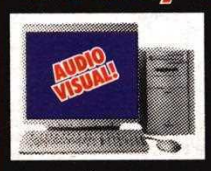


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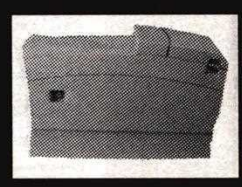

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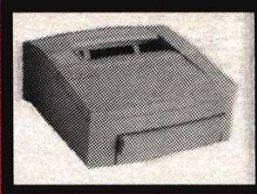

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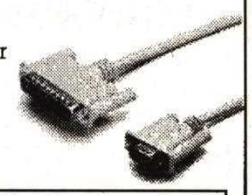

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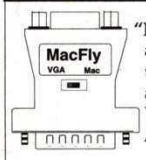


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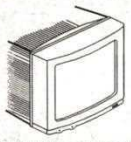

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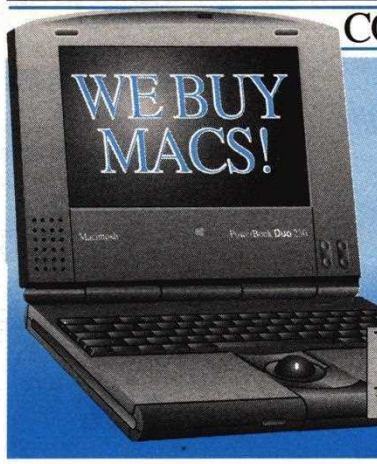


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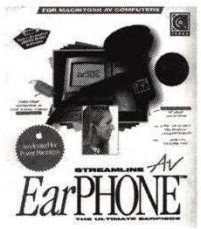


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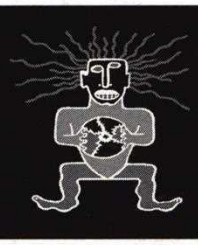

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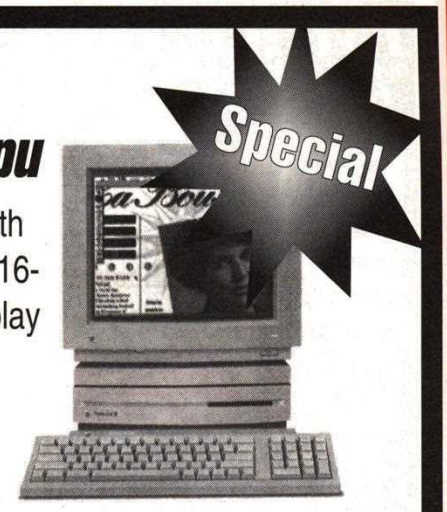


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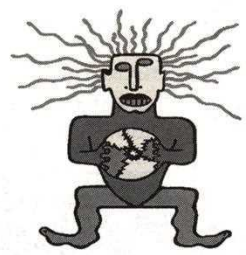

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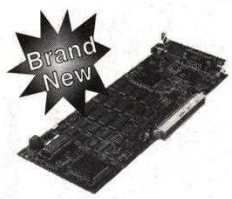

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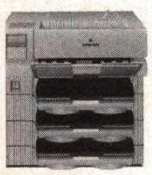

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## Notebook

*From Page 1*

Apple about that other OS, Windows 95, attendees were clearly more chipper than they were a year ago, when the Mac community was concerned about the health of Apple. "There are times I feel the platform is in danger, but this show is comforting," said Brad McNeill, IS manager for Arizona State Parks in Phoenix.

Still, some were overwhelmed by the barrage of happy talk and giveaways. "At this point, I have more T-shirts than I have brains," sighed one weary show goer.

### They're off

With the simple wave of a hand, security guard Jack Sloan ushered in the wave of humanity pressed up against the doors of the World Trade Center. Macworld Expo had officially begun.

Once the teeming masses had spilled through, they encountered a wave of another sort: clones, clones and more clones. Machines from Power Computing Corp., Radius Inc. and DayStar Digital Inc. dotted the show floor; Power Computing seeded more than 50 developer booths with its Power 100 boxes.

"This show is all about clones," said Bob Marder, technical support coordinator of network systems at Westinghouse Electric Corp. in Baltimore. An exaggeration, perhaps, given the breadth of popular software and peripherals on display.

### Never the twain shall meet

Storage-hungry users ate up all 1,000 of Iomega Corp.'s Zip drives the first day of the show.

Another hot seller, Connectix Corp.'s SpeedDoubler, sold more than 2,000 copies in two days at the special show price of $49. "It's coming out of the gate as hot as RAMDoubler," said Steve Cross, director of sales at San Mateo, Calif.-based Connectix. "So many people are running non-native code on Power Macs, they need this to double their speed."

Indeed, some unscrupulous users couldn't wait to get their hands on Apple's PCI cards. A pair of the cards were swiped from the company's booth the night before the show started, the victims said.

### Keynote capers

When David Nagel, Apple's senior vice president of R&D, took the stage to give the keynote address, he preached to the choir — giving some 2,000 followers a touch of that old-time Mac religion under a huge tent near Boston Harbor.

And what would a Mac revival be without Apple's newly anointed high priest of evangelism, Guy Kawasaki? The author of "Selling the Dream" regaled attendees with a top-10 list recounting why Mac users should switch to Microsoft's new Windows — not.

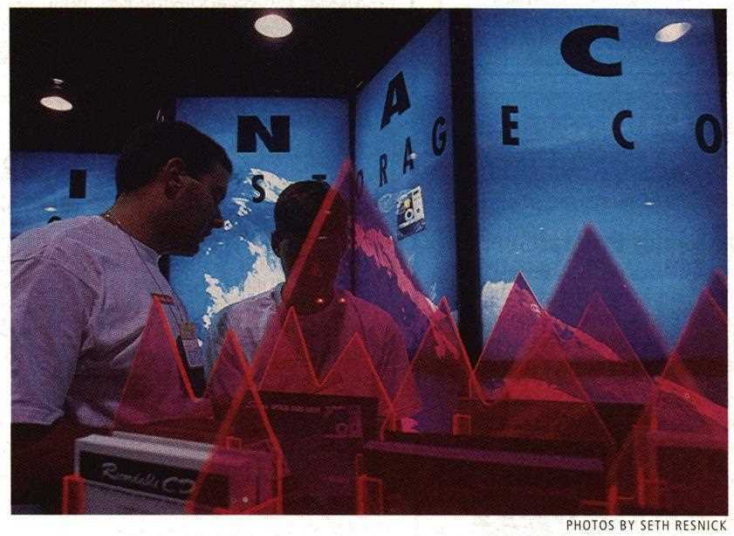
### But wait ...

Other highlights from the keynote included a demo of the object-based multimedia authoring tool, mFactory; the dubbing of Ceneca Communications Inc.'s Web layout application, PageMill, as "the PageMaker of the '90s" by Kawasaki; and a sneak preview of future Newton technology that linked the PDA to a Mac hard drive via a modem.

But pity the person who coordinated the keynote. In addition to the use of two Jumbotron screens that made it virtually impossible to decipher any of the software demos, the event was held at a giant open-air arena with nothing but a veil of canvas to protect the audience from the elements.

Just chalk it up as further proof that God must love fools, sailors and Apple; the weather was "the best this summer," according to the locals. □

**The war to win the dollars of removable-media buyers heated up at Iomega's and SyQuest's kitty-corner booths. The Zip started out strong, selling out the first day of expo.**



PHOTOS BY SETH RESNICK

**Pinnacle took MO technology to new heights with the debut of its Apex drives, which drew show goers for whom 1 Gbyte is a floppy disk.**

## Panorama

*From Page 1*

ity support is also planned for a later version.

Panorama 3's internal Partner/Server system will let multiple users share databases by distributing a complete copy or subset of a database to each user on a LAN. The new version will support record locking, ensuring that data is accurate.

Data is still fully loaded in RAM by default, which ProVUE said accelerates searching, sorting and display of data. But the new version will no longer require that an entire database always be resident in RAM; instead, users will load only a subset of the full database, as needed.

Mobile users will be able to use the local version of their database while on the road and synchronize it remotely with the server.

Security will be beefed up in Panorama 3, with up to 256 access levels per database, department-style access grouping and restrictions at the field level.

ProVUE is adding a number of interface-building tools to Panorama, including new elements called SuperObjects, which can be custom buttons, lists, arrays, menus and more. For example, users will be able to quickly create multiple check boxes linked to a field or variable, or build repeating grids on the fly without having to write procedures.

An Automatic Geometry Management feature will resize, scale or move selected objects as the containing window is resized. Color buttons and backgrounds will automatically adjust for monochrome monitors.

Panorama 3 will have a full-featured word processor built in, which can be dragged onto any form. Panorama's built-in programming language, PanTalk, will get a full debugger, cross-reference tool, improved subroutines and access to Macintosh Toolbox routines. ProVUE will also include support for Apple-events scripting.

Panorama 3 pricing is expected to be close to the current $395 price. Multi-user versions will reportedly be priced between $500 and $1,200, depending on the number of users. A runtime version of the program, Panorama Direct, will be less than $100, according to the company.

ProVUE Development Corp. of Huntington Beach, Calif., can be reached at (714) 841-7779; fax (714) 841-1479; provue@aol.com. □

## Windows 95

*From Page 1*

application-specific data and systemwide address lists.

Have we heard this before? The feature list of Exchange parallels Apple's PowerTalk very closely. Like so many things in Windows 95, however, Exchange is not just a Mac mimic; it's a competitor that has the benefit of coming second.

One telling difference is that Windows 95 uses Exchange as its fax interface; likewise, Microsoft Network uses Exchange for online e-mail. Microsoft touts these features as highly as it does preemptive multitasking.

Microsoft has indicated that it is leaving the bulk of future mail-gateway support to third-party developers, a trap Apple fell into, and we're surprised to see Microsoft repeat it. Gateways are the messaging-system vendor's responsibility; Apple finally got this point, and the System 7.5 CD-ROM actually includes more mail gateways than Windows 95 will.

While Microsoft Exchange has a lot of checklist items going for it, its success as software is another story. The Inbox interface and message editor are familiar — a bit of Windows Explorer here, a jot of WordPad there — but the result is clunky. The usually successful property sheet concept trips all over itself in Exchange, whose mess of overlapping options are distributed in different places. Configuring Exchange's options is utterly nonintuitive.

### Me too

Windows 95 includes peer-to-peer file, printer and modem sharing, and built-in file synchronization. Apple hasn't done modems yet, but System 7.5 provides the other three.

The latest Microsoft OS includes a direct-connect feature, which allows one Windows machine to link to another via a wire. We know this is a great feature for portable users because we've been doing it with the Mac's built-in LocalTalk for years.

Similarly, Windows 95 has a dial-up function much like Apple Remote Access (ARA) Personal Server. Again, Apple was there first with an elegant solution. Windows 95 goes further than ARA by integrating multiple protocols in one place and using Point-to-Point Protocol (PPP) as a lingua franca for remote-access.

Heavy-duty modem users have always been legitimately happier with Intel-standard PCs than with Macs. Windows 95 aims to please with better throughput, automatic configuration and central dialing.

We'll call modems a draw. The PC has better tools, but it needs them to manage modems that have a habit of hanging the system with an IRQ conflict.

### Driver's seat

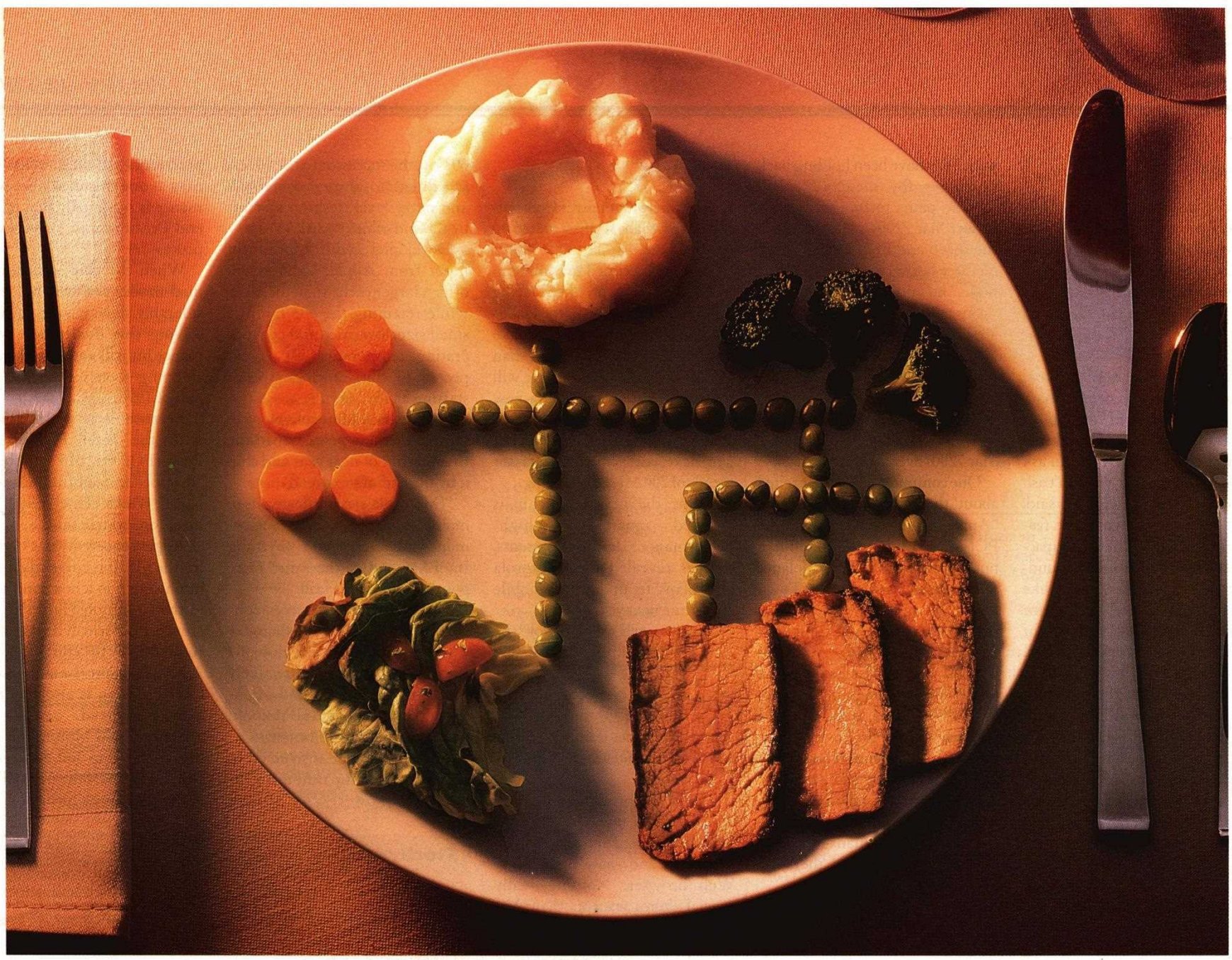
One of the Mac's great claims to fame has been that it has networking hardware and software built in. Now Windows 95 is challenging Apple's LAN ease by bundling in drivers for popular network protocols and cards. But the effort doesn't wash.

While we're impressed with Windows 95's range of LAN protocols — IPX, TCP/IP, NetBEUI and even Network File System drivers — Microsoft is just bundling the mess of semi-compatible protocol stacks that rule on PC LANs. If you don't have new Windows 95-savvy drivers for your cards, the old 16-bit ones will function. This is good, but it adds another layer of complexity and potential conflicts.

The combination of new Plug and Play hardware and Virtual Device Drivers (VxDs) is the real solution, but it's one that will require costly client updates that few networked sites will be willing to justify.

Even more disturbing is Microsoft's VxD implementation, which allows the driver software to run unprotected at the heart of the OS. Granted, this situation is no worse than Windows or Mac users have endured for

*See Windows 95, Page 84*



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## Buyer

*From Page 1*

Many attendees found the new machines' speed enticing. Ron Steingard, director of psychopharmacology at Children's Hospital in Boston, needs the power the new Macs offer. "We are building part of a human brain using a Mac modeling program," he said.

Steingard, who does number crunching as well as neural imaging on the Mac, said he plans to buy as many as 12 new machines for his department. "You can ask questions on the Mac you can't ask in human trials," Steingard said.

Others were drawn to the features of the 7200. "I like the capacity for digital video and sound-recording capabilities, and I like that they are faster," said Victor Gavenda, technical editor for Peachpit Press of Berkeley, Calif. He said he plans to buy several.

"They're one of the reasons I came up here," said H.B. Smith Jr., an auctioneer in Fayetteville, N.C. Smith, who, with two employees, produces auction catalogs on Macs, said he plans to buy two or three of the new machines.

"I'm trying to keep up-to-date," Smith said. "But it is more desire than need, if you want to know the truth."

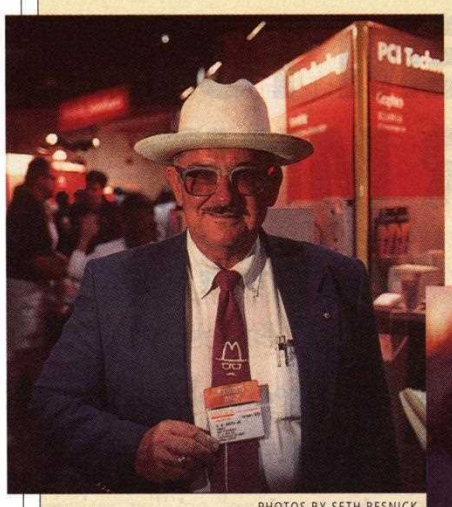
Brad McNeill, IS manager for Arizona State Parks in Phoenix, said: "We have been holding back purchases for these." McNeill said he plans to buy five or six Power Mac 7200s or 7500s. "With the speed and PCI, we can count on these lasting three or so years, I hope," he said.

Susan Rosenberg, operations analyst for Aspen Publishers Inc. in Gaithersburg, Md., has also been waiting for these Macs. "We use Macs now, Pluses and SEs, and we need to upgrade." Rosenberg said she intends to buy 10 to 20 Power Mac 7200s over the next year.

One computer seller was excited about the new Macs' prospects. "Apple is right on target with the PCI Macs. I think they'll sell like hot cakes," said Tony Violanti, sales manager at ComputerTown Inc. of Salem, N.H.

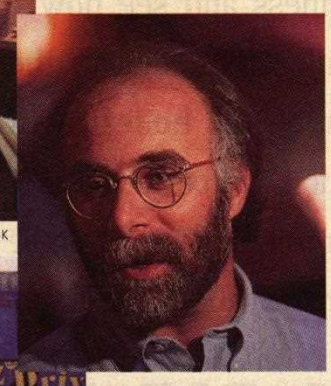
But others were not ruling out Apple alternatives. Roz Ault, support manager at The Faxon Co., a library subscription fulfillment service in Westwood, Mass., said: "I'd love to buy one of the Power [Computing Corp.] clones. If I can get a good deal on price and run Windows software, it helps to justify Mac purchases [in a mixed environment]. Lots of managers don't have a Mac background; they only look at the bottom line." □

*David Morgenstern and Jon Swartz contributed to this report.*



**"[PCI Macs] are one of the reasons I came up here. I'm trying to keep up-to-date. But it is more desire than need, if you want to know the truth."**

*— H.B. Smith Jr., auctioneer, Fayetteville, N.C.*



PHOTOS BY SETH RESNICK

**"Apple is right on target with the PCI Macs. I think they'll sell like hot cakes."**

*— Tony Violanti, sales manager, ComputerTown Inc., Salem, N.H.*

**"I plan to buy the most powerful ones I can afford. We are building part of a human brain using a Mac modeling program."**

*— Ron Steingard, director of psychopharmacology, Children's Hospital in Boston*

## PowerPC

*From Page 1*

is more likely that Power Computing Corp. will be the first to step up to the plate. Apple and Power Computing declined to comment.

A significant problem facing Apple's use of the chip is the inability of current Power Macs to take advantage of any CPU faster than 150 MHz. Sources said Apple will remedy this problem with a new line of Power Macs, code-named Power Surge 2, which will debut late next year with support for speeds of 200 MHz and higher.

While the new 604e chip is targeted squarely at high-performance desktop systems, sources revealed that Motorola also plans to update its mobile RISC line next year.

Code-named Valiant or the 603++, the successor to the 603e is scheduled to ship in notebook and entry-level desktop systems by the end of next year.

Developed with significant input from Apple, Valiant will offer a larger cache than the 603e, while retaining the 603 family's small size, low price and cool operating temperature. It is expected to ship at clock speeds starting at 150 MHz.

Sources said Motorola plans to sample the new processor in the first quarter of next year and ship it by the end of next year.

"[Motorola's] realistic goal is to maintain a 1.7-to-2.0x performance advantage over anything Intel has and at the same price points," one source said.

In related news, sources confirmed that IBM is well under way in its plans to develop the PowerPC 615, which effectively combines a PowerPC and a Pentium in one package. IBM could not be reached for comment.

The chip can be instructed to perform at start-up time as a Pentium, as a PowerPC or as both processors at once. When running as one chip at a time, performance is reportedly that of high-end Pentium and PowerPC 604 processors.

When the chip is running in dual mode, performance is considerably slower; sources said resolving this dual-mode performance hit will keep the chip from shipping sooner than the latter half of 1996.

Because it is pin-compatible with the Intel Pentium, not PowerPC, the 615 can be just "dropped into an Intel-class logic board, which clone vendors will love," one source said.

Apple reportedly has big plans for the 615. It is currently looking into using it in a box conforming to the Common Hardware Reference Platform (CHRP) that it could ship by the end of next year. A Mac that uses the chip in a pre-CHRP design is also reportedly being considered.

Sources said Motorola is looking at the chip but has not decided what part the 615 will play in the company's future. □

## Windows 95

*From Page 82*

years, but it does dampen enthusiasm at large sites for a Windows 95 migration.

The Microsoft Plus add-on kit, which we expect will be very popular, includes Internet dial-up software and a World-Wide Web browser. Nothing really special here, except that Microsoft, like Apple and several third-party developers, has created an automated installer that walks users through the sign-up and configuration process.

And Microsoft Network? If you thought eWorld was a ghost town, wait until you wander the lonely halls of this place. It never pays to underestimate Microsoft, but even with a potential audience of several hundred thousand beta users, Microsoft Network is a bore. The interface is commonplace in the BBS world, and the tight integration with the rest of the OS just causes confusion.

One of the strangest Mac myths is that Apple's machines are hard to connect. But the prevailing standards of the PC world are so difficult that any comparison to the Mac comes up in Apple's favor. Windows 95 doesn't change that.

We note, however, that Apple's communications and collaboration marketing is the pits, and its integration nonexistent. While Microsoft is still clearly playing catch-up, Apple has done nothing to promote the multifarious elements in System 7.5, PowerTalk, ARA, the new Internet Connection Kit, Network Software Installer, Apple Telecom and so on.

We must wait for Copland for public synergy among Apple's communications efforts. □

## StockWatch

| | 08.10.95 CLOSE | WEEKLY % CHANGE |
|---|---|---|
| Apple | 42.75 | -0.87 |
| MacWEEK Composite* | 1.67 | 1.67 |
| **SOFTWARE DEVELOPERS** | | |
| Adobe | 58.75 | -0.53 |
| Caere | 11.00 | 4.76 |
| CE Software | 2.13 | 0.00 |
| Graphsoft | 8.50 | 0.00 |
| Intuit | 88.50 | -1.12 |
| Macromedia | 44.75 | -5.79 |
| Microsoft | 94.13 | -2.33 |
| Novell | 18.13 | -0.68 |
| Oracle | 41.25 | 0.61 |
| Saber | 11.13 | -1.11 |
| Symantec | 29.00 | -2.73 |
| **STORAGE** | | |
| Conner | 13.13 | 0.00 |
| Iomega | 27.75 | -1.77 |
| Maxtor | 4.69 | -1.32 |
| Pinnacle | 21.25 | 6.25 |
| Quantum | 24.25 | -2.51 |
| Seagate | 44.00 | 0.00 |
| SyQuest | 18.13 | -3.01 |

| | 08.10.95 CLOSE | WEEKLY % CHANGE |
|---|---|---|
| **PERIPHERALS VENDORS** | | |
| AmeriQuest | 1.88 | -11.76 |
| Asanté | 5.50 | 0.00 |
| Focus | 2.75 | 10.00 |
| Global Village | 14.00 | -1.75 |
| HP | 75.63 | 0.67 |
| QMS | 4.38 | -2.78 |
| Radius | 9.25 | -2.63 |
| RasterOps | 7.88 | 1.61 |
| Shiva | 50.25 | -0.50 |
| Tektronix | 46.25 | -1.07 |
| **DISTRIBUTORS** | | |
| CompUSA | 35.00 | -0.71 |
| IE | 12.00 | -4.95 |
| Merisel | 6.50 | -3.70 |
| Tech Data | 13.00 | -4.59 |
| **INDUSTRY INDICATORS** | | |
| Compaq | 51.88 | -0.24 |
| IBM | 109.13 | -0.68 |
| Intel | 64.25 | -2.84 |
| Motorola | 75.38 | -1.79 |
| SGI | 39.25 | -1.88 |
| NASDAQ | 1000.61 | -0.45 |

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, RasterOps, Shiva and SyQuest. Source: Nordby International Inc.*

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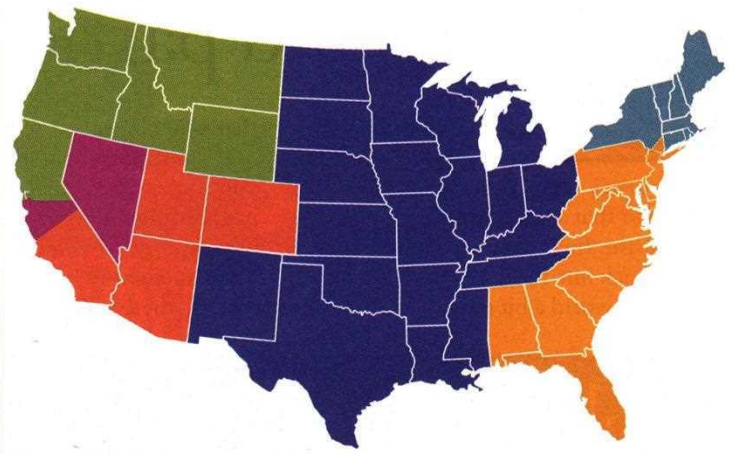

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# Copland parties like it's 1984

No matter what your condition after the return journey from Boston last week, the *petite mort* that always shows up hot on the heels of the final expo curtain can make getting back into the normal rhythm of the workaday world a bit more of a challenge than other business excursions.

If your return trip, like the Knife's, involved the selection of both an entree and in-flight movie, you probably had ample opportunity to come to grips with this phenomenon in your own fashion. Of course, there's little respite for those of sharp blade and even sharper sight. Sometimes wrongs intrude unexpectedly and must be made right, even if it means passing up your third screening of "The Dude Who Went Up a Something and Came Down Something Else" to defend the mother tongue.

Language is not a straitjacket, or so the Knife would have us believe, but there are times when the liberties taken offend even the Knife's loose linguistic standards. Apple's own Dave Nagel was such a taker in his expo keynote address in which he stated without qualification that Apple is still "committed to getting Copland in users' hands by mid-1996."

You don't have to hold the George Orwell chair in clear thinking to realize that Nagel's statement leaves his corporate self a fair amount of wiggle room should Copland turn out to be about as faithful to its public schedule as the average politician is to ideals when it's time to cut deals. Thank you, but we have quite enough on our hands already. What we need is a new operating system.

### Word to the wise

While we're on the topic of Copland, and aren't we always, Apple has been shouting from the rooftops that it has Photoshop and Excel up and running on Copland. Add in the Finder and that makes three whole applications. No one can confirm this factoid since even Microsoft has not seen its ubiquitous spreadsheet in operation on Apple's next OS. Wonder why?

Not that Microsoft has nothing better to do than look over Apple's shoulder. It seems the company already has Word 7.0 prototypes running on a Copland-less Mac. Considering the beating Word 6 continues to endure, it would perhaps not be a terrible idea, as some inside the company suggest, to ship this Word ahead of the rest of the Office, which apparently lags behind.

### Almost persuaded

If you were paying close attention over the past few quarters, you could have seen this one coming. The Knife reports this week that what we all know as Aldus Persuasion has an uncertain future at Adobe, where the presentation program has been allotted a very thin slice of the company's development resources. Apparently, Adobe thinks that all of its presentation and multimedia bases are covered quite nicely for the foreseeable future.

### Web sighting

Old-timers may cringe when confronted with the inevitability of an Internet increasingly contaminated by for-profit commerce, but this tide will not be stemmed.

Apple's contribution is a Web site that vendors can use free to spread various third-party gospels to potential customers worldwide. If these temporal matters arouse your latent shopping tendencies, you can indulge same at http//www.info.apple.com/dev/thirdparty/third_party.html. □

*The Knife prepared a MacWEEK mug as your reward for sharing insider dirt long before the Net became the smart business accessory. Tie down the details at (415) 243-3544, fax (415) 243-3651, Internet (mac_the_knife@macweek.ziff.com), AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.*


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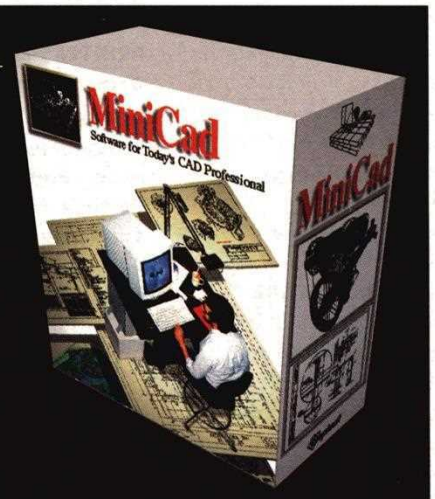


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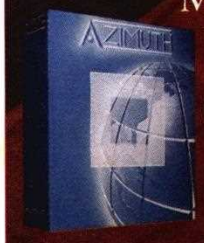

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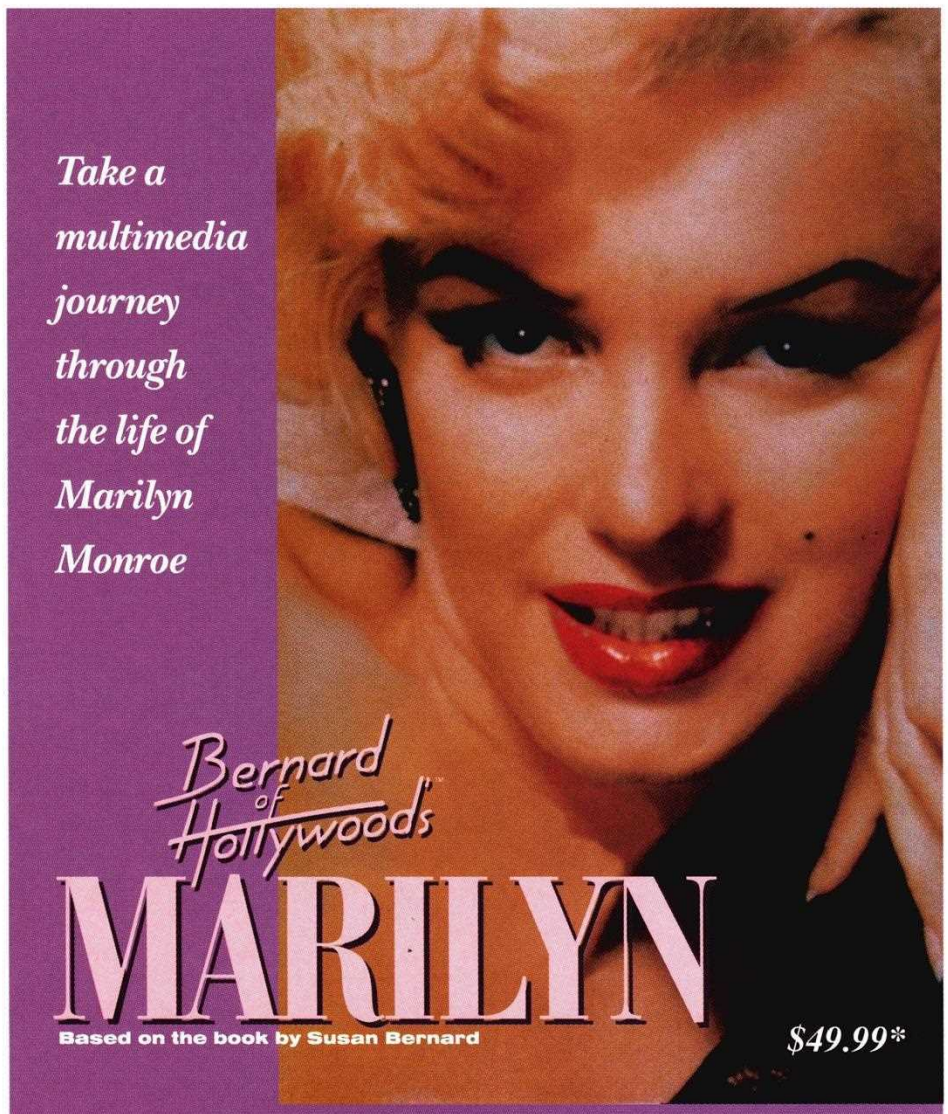
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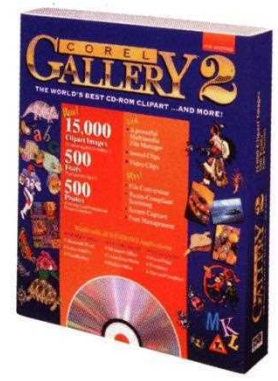


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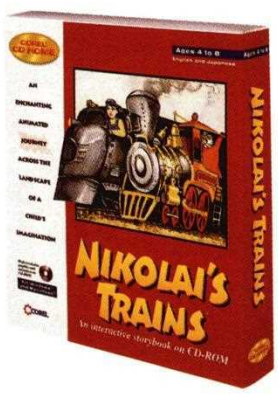


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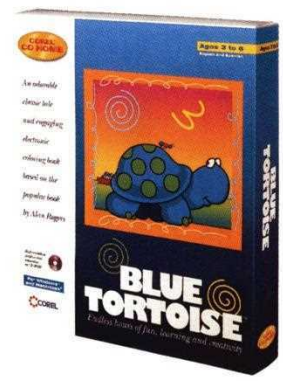


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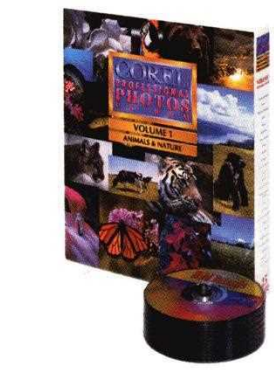


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